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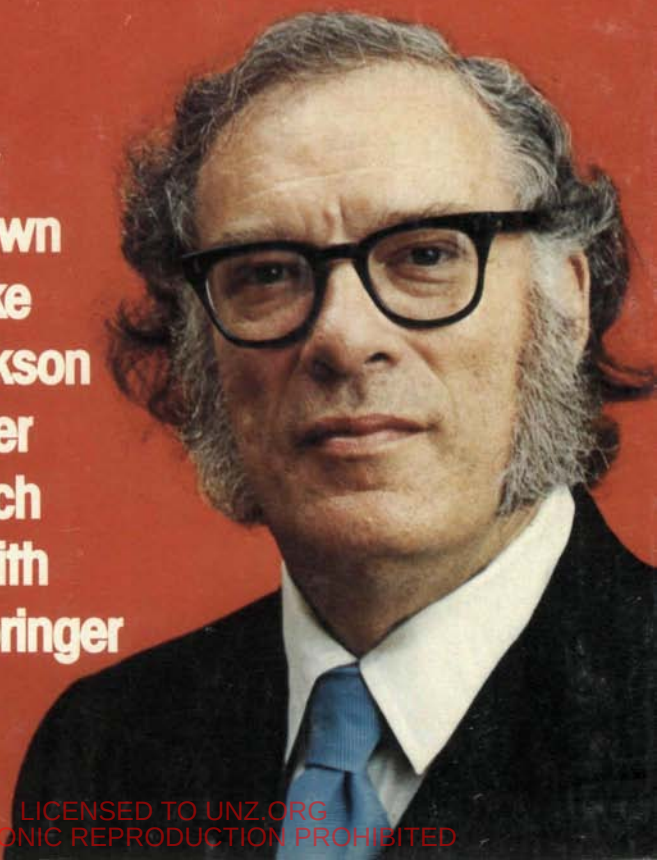

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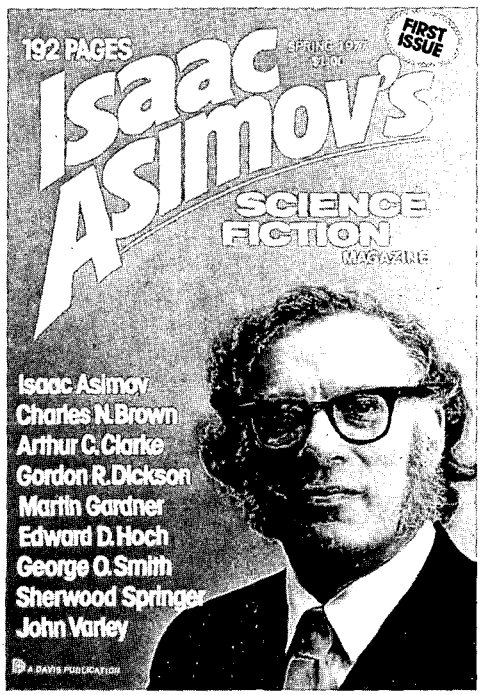

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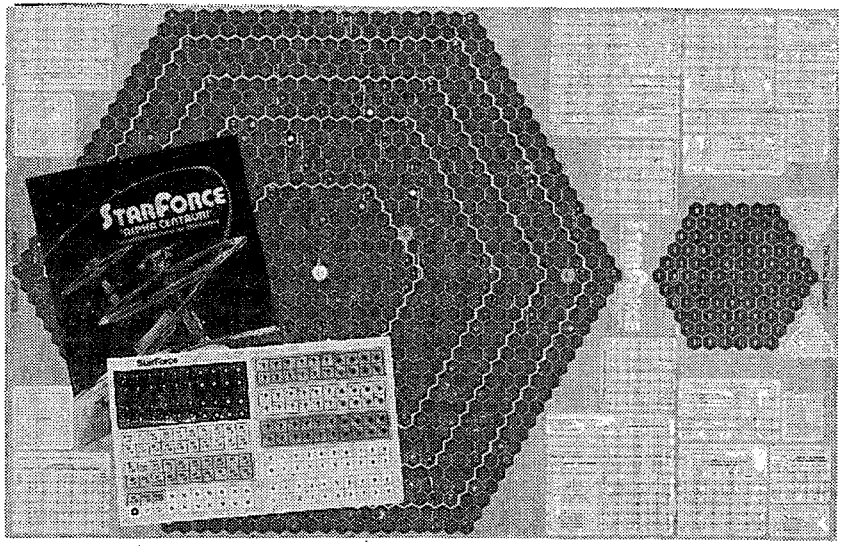

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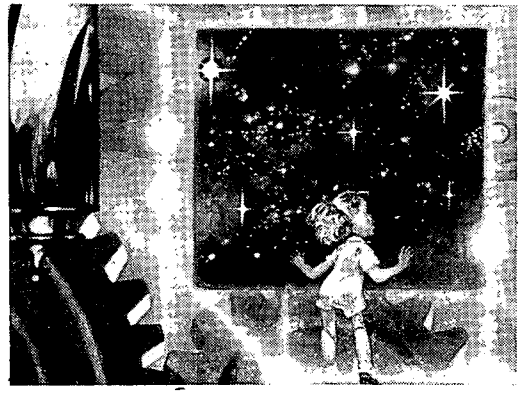

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EDITORIAL

I suppose I ought to start by introducing myself, even though that seems needless. The whole point about putting my name on the magazine rests on the supposition that everyone will recognize it at once, go into ecstatic raptures, and rush forward to buy the magazine.

Well, just in case that doesn't happen, I'm Isaac Asimov. I'm a little over thirty years old and I have been selling science fiction stories since 1938. (If the arithmetic seems wrong here, it's because you don't understand higher mathematics.) I have published about 40 books of fiction, mostly science fiction, and about 140 books of nonfiction, mostly science. On the other side of the fence, I have a Ph. D. in chemistry from Columbia University and I'm Associate Professor of Biochemistry at Boston University School of Medicine. —But let's not go on with the litany since I am (as is well known) very modest, and since I am the least important person involved with this magazine.

Joel Davis, the publisher, is much more important. His company, Davis Publications, Inc., puts out over thirty magazines, including the enormously successful *Ellery Queen's Mystery Magazine*. It also publishes *Alfred Hitchcock's Mystery Magazine*. With two such magazines under his belt, visions of empire arose before Joel's eyes, and it seemed to him he ought to have a science fiction magazine as sister to these. To retain symmetry, however, he needed a name in the title and he thought of me at once. You see, I'm familiar to him because I have, in recent years, sold a score of mystery short stories to *Ellery Queen's Mystery Magazine*, and he would often catch me in suave conversation with Eleanor Sullivan and Constance DiRienzo, the bewitching young women who occupy the *EQMM* office.

I can't say I fell all over myself with joy. The truth is I was worried. I told Joel that no science fiction magazine had ever

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borne a person's name on it, to my knowledge, and that the writers and readers would surely resent this as an example of overweening arrogance. He said, "Nonsense, Isaac, who could possibly accuse you of arrogance?" —Well, that's true enough. But then I pointed out that the editors of the various other science fiction magazines were, one and all, personal friends of mine and I would not wish to compete with them. He said, "You won't be competing with them, Isaac. One more strong magazine in the field will attract additional readers, encourage additional writers. Our own success will help the other magazines in the field as well." (I consulted others and everyone agreed with Joel.)

Then I told Joel that I had a monthly science column running in one of the other science fiction magazines. It had been running without a break for eighteen years and under no circumstances could I consider giving it up. He said, "You don't have to give it up. Continue it exactly as before." (And I am doing so, with the blessing of the other magazine's editor.) But then I had the topper. I told him that the fact was I *couldn't* edit a magazine. I didn't have the ability or the experience or the desire or the time. He said, "Find someone you can trust, with the ability, the experience, the desire, and the time, and he can be the editor. You can be the editorial director, and the man you pick will work under your direction, for I want this to be *your* magazine, a reflection of your tastes with your kind of science fiction. You should keep an eye on what the editor buys, write the editorials yourself, and work closely with this editor to set policy and to solve problems as they come up."

So we agreed to that; now let me introduce the Editor. He is George H. Scithers, an electrical engineer specializing in radio propagation and rail rapid transit, who is a Lieutenant Colonel (retired) in the United States Army and who does a bit of writing on the side. He has been involved with the world of science fiction for over thirty years. He was the chairman of DisCon 1, the World Science Fiction Convention held in Washington in 1963 (where I got my first Hugo, so you can see what a well-run convention that was), and has been parliamentarian for several other conventions. He has a small publishing firm, Owlswick Press, publishing books of science fiction interest, notably the new revision of L. Sprague de Camp's *Science Fiction Handbook*. Furthermore, I know him personally, know that his tastes in science

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fiction are like mine and that he is industrious and reliable.

As Associate Editor, George has managed to get the services of Gardner Dozois, who is himself a contemporary science fiction writer of note.

Now what about the magazine itself? Life is risky for magazines in these days of television and paperbacks so we are starting as a quarterly. What reader support we'll get is now in the lap of the gods, but if things go as we earnestly hope they do, we will work our way up to monthly as soon as we can.

We are concentrating on the shorter lengths, and there will be no serials. Novels have plenty of outlets these days, the shorter lengths relatively few. With my name on the magazine, it won't surprise you to hear that we will lean toward hard science fiction, and toward the reasonably straightforward in the way of style. However, we won't take ourselves too seriously and not every story has to be a solemn occasion. We will have humorous stories and we will have an occasional unclassifiable story as, for instance, the one by Jonathan Fast in this issue. We will have a book review column that will favor short notices of many books rather than deep essays on a few. We will have non-fiction pieces that we will try to make as science-fiction-related as possible. We have one that will cover a museum opening, for instance, but it's a space museum; and we're working on one that compares real-life computers with those in science fiction stories.

But you can see for yourself what we're trying to do if you read this issue and, undoubtedly, we will develop in ways not easily predictable at the start.

Two last points—For heaven's sake, *don't* send any manuscripts to me, send them to George Scithers. And for heaven's sake, be careful where you allocate credit. If this magazine pleases you, do give the credit to George Scithers and write and tell him so. He's doing the work. —If, on the other hand, you decide it's a stinker, please send your letters to Joel Davis. The whole thing was his idea.

And remember, those letters that we find to be of general interest will be printed in a letter column along with comments by me; and we *will* try to spell your name correctly.

—Isaac Asimov

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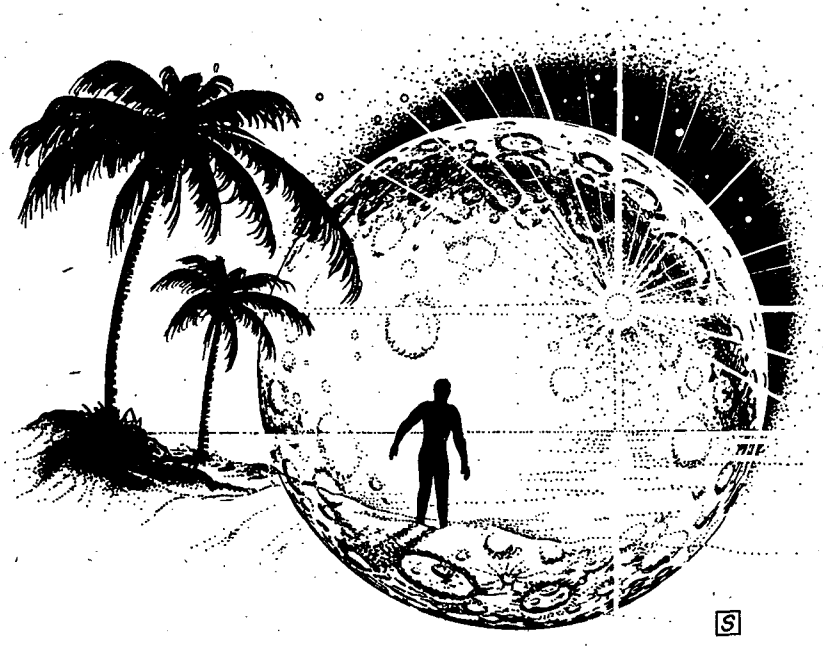
GOOD-BYE, ROBINSON CRUSOE

by John Varley

John Varley wrote all through high school, he tells us, stopped when he got out, and took it up again in 1973. Now, reading, writing, and imagining take up all of his spare time. This story is the 19th of the 20 that he's written—and sold—so far. (We bought number 20 too.) He's now working on a novel, Ophiuchi Hotline, *for Don Bensen at Dial Press.*



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It was summer, and Piri was in his second childhood. First, second; who counted? His body was young. He had not felt more alive since his original childhood back in the spring, when the sun drew closer and the air began to melt.

He was spending his time at Rarotonga Reef, in the Pacifica disneyland. Pacifica was still under construction, but Rarotonga had been used by the ecologists as a testing ground for the more ambitious barrier-type reef they were building in the south, just off the "Australian" coast. As a result, it was more firmly established than the other biomes. It was open to visitors, but so far only Piri was there. The "sky" disconcerted everyone else.

Piri didn't mind it. He was equipped with a brand-new toy: a fully operational imagination, a selective sense of wonder that allowed him to blank out those parts of his surroundings that failed to fit with his current fantasy.

He awoke with the tropical sun blinking in his face through the palm fronds. He had built a rude shelter from flotsam and detritus on the beach. It was not to protect him from the elements. The disneyland management had the weather well in hand; he might as well have slept in the open. But castaways *always* build some sort of shelter.

He bounced up with the quick alertness that comes from being young and living close to the center of things, brushed sand from his naked body, and ran for the line of breakers at the bottom of the narrow strip of beach.

His gait was awkward. His feet were twice as long as they should have been, with flexible toes that were webbed into flippers. Dry sand showered around his legs as he ran. He was brown as coffee and cream, and hairless.

Piri dived flat to the water, sliced neatly under a wave, and paddled out to waist-height. He paused there. He held his nose and worked his arms up and down, blowing air through his mouth and swallowing at the same time. What looked like long, hairline scars between his lower ribs came open. Red-orange fringes became visible inside them, and gradually lowered. He was no longer an air-breather.

He dived again, mouth open, and this time he did not come up. His esophagus and trachea closed and a new valve came into operation. It would pass water in only one direction, so his diaphragm now functioned as a pump pulling water through his

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mouth and forcing it out through the gill-slits. The water flowing through this lower chest area caused his gills to engorge with blood, turning them purplish-red and forcing his lungs to collapse upward into his chest cavity. Bubbles of air trickled out his sides, then stopped. His transition was complete.

The water seemed to grow warmer around him. It had been pleasantly cool; now it seemed no temperature at all. It was the result of his body temperature lowering in response to hormones released by an artificial gland in his cranium. He could not afford to burn energy at the rate he had done in the air; the water was too efficient a coolant for that. All through his body arteries and capillaries were constricting as parts of him stablized at a lower rate of function.

No naturally evolved mammal had ever made the switch from air to water breathing, and the project had taxed the resources of bio-engineering to its limits. But everything in Piri's body was a living part of him. It had taken two full days to install it all.

He knew nothing of the chemical complexities that kept him alive where he should have died quickly from heat loss or oxygen starvation. He knew only the joy of arrowing along the white sandy bottom. The water was clear, blue-green in the distance.

The bottom kept dropping away from him, until suddenly it reached for the waves. He angled up the wall of the reef until his head broke the surface, climbed up the knobs and ledges until he was standing in the sunlight. He took a deep breath and became an air-breather again.

The change cost him some discomfort. He waited until the dizziness and fit of coughing had passed, shivering a little as his body rapidly underwent a reversal to a warm-blooded economy.

It was time for breakfast.

He spent the morning foraging among the tidepools. There were dozens of plants and animals that he had learned to eat raw. He ate a great deal, storing up energy for the afternoon's expedition on the outer reef.

Piri avoided looking at the sky. He wasn't alarmed by it; it did not disconcert him as it did the others. But he had to preserve the illusion that he was actually on a tropical reef in the Pacific Ocean, a castaway, and not a vacationer in an environment bubble below the surface of Pluto.

Soon he became a fish again, and dived off the sea side of the

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reef.

The water around the reef was oxygen-rich from the constant wave action. Even here, though, he had to remain in motion to keep enough water flowing past his external gill fringes. But he could move more slowly as he wound his way down into the darker reaches of the sheer reef face. The reds and yellows of his world were swallowed by the blues and greens and purples. It was quiet. There were sounds to hear, but his ears were not adapted to them. He moved slowly through shafts of blue light, keeping up the bare minimum of water flow.

He hesitated at the ten-meter level. He had thought he was going to his Atlantis Grotto to check out his crab farm. Then he wondered if he ought to hunt up Ocho the Octopus instead. For a panicky moment he was afflicted with the bane of childhood: an inability to decide what to do with himself. Or maybe it was worse, he thought. Maybe it was a sign of growing up. The crab farm bored him, or at least it did today.

He waffled back and forth for several minutes, idly chasing the tiny red fish that flirted with the anemones. He never caught one. This was no good at all. Surely there was an adventure in this silent fairyland. He had to find one.

An adventure found him, instead. Piri saw something swimming out in the open water, almost at the limits of his vision. It was long and pale, an attenuated missile of raw death. His heart squeezed in panic, and he scuttled for a hollow in the reef.

Piri called him the Ghost. He had seen him many times in the open sea. He was eight meters of mouth, belly and tail: hunger personified. There were those who said the great white shark was the most ferocious carnivore that ever lived. Piri believed it.

It didn't matter that the Ghost was completely harmless to him. The Pacifica management did not like having its guests eaten alive. An adult could elect to go into the water with no protection, providing the necessary waivers were on file. Children had to be implanted with an equalizer. Piri had one, somewhere just below the skin of his left wrist. It was a sonic generator, set to emit a sound that would mean terror to any predator in the water.

The Ghost, like all the sharks, barracudas, morays, and other predators in Pacifica, was not like his cousins who swam the seas of Earth. He had been cloned from cells stored in the Biological Library on Luna. The library had been created two hundred years

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before as an insurance policy against the extinction of a species. Originally, only endangered species were filed, but for years before the Invasion the directors had been trying to get a sample of everything. Then the Invaders had come, and Lunarians were too busy surviving without help from Occupied Earth to worry about the library. But when the time came to build the disneylands, the library had been ready.

By then, biological engineering had advanced to the point where many modifications could be made in genetic structure. Mostly, the disneyland biologists had left nature alone. But they had changed the predators. In the Ghost, the change was a mutated organ attached to the brain that responded with a flood of fear when a supersonic note was sounded.

So why was the Ghost still out there? Piri blinked his nictating membranes, trying to clear his vision. It helped a little. The shape looked a bit different.

Instead of moving back and forth, the tail seemed to be going up and down, perhaps in a scissoring motion. Only one animal swims like that. He gulped down his fear and pushed away from the reef.

But he had waited too long. His fear of the Ghost went beyond simple danger, of which there was none. It was something more basic, an unreasoning reflex that prickled his neck when he saw that long white shape. He couldn't fight it, and didn't want to. But the fear had kept him against the reef, hidden, while the person swam out of reach. He thrashed to catch up, but soon lost track of the moving feet in the gloom.

He had seen gills trailing from the sides of the figure, muted down to a deep blue-black by the depths. He had the impression that it was a woman.

○ ● ○

Tongatown was the only human habitation on the island. It housed a crew of maintenance people and their children, about fifty in all, in grass huts patterned after those of South Sea natives. A few of the buildings concealed elevators that went to the underground rooms that would house the tourists when the project was completed. The shacks would then go at a premium rate, and the beaches would be crowded.

Piri walked into the circle of firelight and greeted his friends. Nighttime was party time in Tongatown. With the day's work

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over, everybody gathered around the fire and roasted a vat-grown goat or lamb. But the real culinary treats were the fresh vegetable dishes. The ecologists were still working out the kinks in the systems, controlling blooms, planting more of failing species. They often produced huge excesses of edibles that would have cost a fortune on the outside. The workers took some of the excess for themselves. It was understood to be a fringe benefit of the job. It was hard enough to find people who could stand to stay under the Pacifica sky.

"Hi, Piri," said a girl. "You meet any pirates today?" It was Harra, who used to be one of Piri's best friends but had seemed increasingly remote over the last year. She was wearing a handmade grass skirt and a lot of flowers, tied into strings that looped around her body. She was fifteen now, and Piri was . . . but who cared? There were no seasons here, only days. Why keep track of time?

Piri didn't know what to say. The two of them had once played together out on the reef. It might be Lost Atlantis, or Submariner, or Reef Pirates; a new plot line and cast of heroes and villains every day. But her question had held such thinly veiled contempt. Didn't she care about the Pirates anymore? What was the matter with her?

She relented when she saw Piri's helpless bewilderment.

"Here, come on and sit down. I saved you a rib." She held out a large chunk of mutton.

Piri took it and sat beside her. He was famished, having had nothing all day since his large breakfast.

"I thought I saw the Ghost today," he said, casually.

Harra shuddered. She wiped her hands on her thighs and looked at him closely.

"Thought? You thought you saw him?" Harra did not care for the Ghost. She had cowered with Piri more than once as they watched him prowl.

"Yep. But I don't think it was really him."

"Where was this?"

"On the sea-side, down about, oh, ten meters. I think it was a woman."

"I don't see how it could be. There's just you and—and Midge and Darvin with—did this woman have an air tank?"

"Nope. Gills. I saw that."

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"But there's only you and four others here with gills. And I know where they all were today."

"You used to have gills," he said, with a hint of accusation.

She sighed. "Are we going through that again? I *told* you, I got tired of the flippers. I wanted to move around the *land* some more."

"I can move around the land," he said, darkly.

"All right, all right. You think I deserted you. Did you ever think that you sort of deserted *me*?"

Piri was puzzled by that, but Harra had stood up and walked quickly away. He could follow her, or he could finish his meal. She was right about the flippers. He was no great shakes at chasing anybody.

Piri never worried about anything for too long. He ate, and ate some more, long past the time when everyone else had joined together for the dancing and singing. He usually hung back, anyway. He could sing, but dancing was out of his league.

Just as he was leaning back in the sand, wondering if there were any more corners he could fill up—perhaps another bowl of that shrimp teriyaki?—Harra was back. She sat beside him.

"I talked to my mother about what you said. She said a tourist showed up today. It looks like you were right. It was a woman, and she was amphibious."

Piri felt a vague unease. One tourist was certainly not an invasion, but she could be a harbinger. And amphibious. So far, no one had gone to that expense except for those who planned to live here for a long time. Was his tropical hide-out in danger of being discovered?

"What—what's she doing here?" He absently ate another spoonful of crab cocktail.

"She's looking for *you*," Harra laughed, and elbowed him in the ribs. Then she pounced on him, tickling his ribs until he was howling in helpless glee. He fought back, almost to the point of having the upper hand, but she was bigger and a little more determined. She got him pinned, showering flower petals on him as they struggled. One of the red flowers from her hair was in her eye, and she brushed it away, breathing hard.

"You want to go for a walk on the beach?" she asked.

Harra was fun, but the last few times he'd gone with her she had tried to kiss him. He wasn't ready for that. He was only a

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kid. He thought she probably had something like that in mind now.

"I'm too full," he said, and it was almost the literal truth. He had stuffed himself disgracefully, and only wanted to curl up in his shack and go to sleep.

Harra said nothing, just sat there getting her breathing under control. At last she nodded, a little jerkily, and got to her feet. Piri wished he could see her face to face. He knew something was wrong. She turned from him and walked away.

○ ● ○

Robinson Crusoe was feeling depressed when he got back to his hut. The walk down the beach away from the laughter and singing had been a lonely one. Why had he rejected Harra's offer of companionship? Was it really so bad that she wanted to play new kinds of games?

But no, damn it. She wouldn't play his games, why should he play hers?

After a few minutes of sitting on the beach under the crescent moon, he got into character. Oh, the agony of being a lone castaway, far from the company of fellow creatures, with nothing but faith in God to sustain oneself. Tomorrow he would read from the scriptures, do some more exploring along the rocky north coast, tan some goat hides, maybe get in a little fishing.

With his plans for the morrow laid before him, Piri could go to sleep, wiping away a last tear for distant England.

The ghost woman came to him during the night. She knelt beside him in the sand. She brushed his sandy hair from his eyes and he stirred in his sleep. His feet thrashed.

He was churning through the abyssal deeps, heart hammering, blind to everything but internal terror. Behind him, jaws yawned, almost touching his toes. They closed with a snap.

He sat up woozily. He saw rows of serrated teeth in the line of breakers in front of him. And a tall, white shape in the moonlight dived into a curling breaker and was gone.

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"Hello."

Piri sat up with a start. The worst thing about being a child living alone on an island—which, when he thought about it, was the sort of thing every child dreamed of—was not having a warm mother's breast to cry on when you had nightmares. It hadn't af-

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fected him much, but when it did, it was pretty bad.

He squinted up into the brightness. She was standing with her head blocking out the sun. He winced, and looked away, down to her feet. They were webbed, with long toes. He looked a little higher. She was nude, and quite beautiful.

"Who . . . ?"

"Are you awake now?" She squatted down beside him. Why had he expected sharp, triangular teeth? His dreams blurred and ran like watercolors in the rain, and he felt much better. She had a nice face. She was smiling at him.

He yawned, and sat up. He was groggy, stiff, and his eyes were coated with sand that didn't come from the beach. It had been an awful night.

"I think so."

"Good. How about some breakfast?" She stood, and went to a basket on the sand.

"I usually—" but his mouth watered when he saw the guavas, melons, kippered herring, and the long brown loaf of bread. She had butter, and some orange marmalade. "Well, maybe just a—" and he had bitten into a succulent slice of melon. But before he could finish it, he was seized by an even stronger urge. He got to his feet and scuttled around the palm tree with the waist-high dark stain and urinated against it.

"Don't tell anybody, huh?" he said, anxiously.

She looked up. "About the tree? Don't worry."

He sat back down and resumed eating the melon. "I could get in a lot of trouble. They gave me a thing and told me to use it."

"It's all right with me," she said, buttering a slice of bread and handing it to him. "Robinson Crusoe never had a portable EcoSan, right?"

"Right," he said, not showing his surprise. How did she know *that*?

Piri didn't know quite what to say. Here she was, sharing his morning, as much a fact of life as the beach or the water.

"What's your name?" It was as good a place to start as any.

"Leandra. You can call me Lee."

"I'm—"

"Piri. I heard about you from the people at the party last night. I hope you don't mind me barging in on you like this."

He shrugged, and tried to indicate all the food with the gesture.

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"Anytime," he said, and laughed. He felt good. It was nice to have someone friendly around after last night. He looked at her again, from a mellower viewpoint.

She was large; quite a bit taller than he was. Her physical age was around thirty, unusually old for a woman. He thought she might be closer to sixty or seventy, but he had nothing to base it on. Piri himself was in his nineties, and who could have known that? She had the slanting eyes that were caused by the addition of transparent eyelids beneath the natural ones. Her hair grew in a narrow band, cropped short, starting between her eyebrows and going over her head to the nape of her neck. Her ears were pinned efficiently against her head, giving her a lean, streamlined look.

"What brings you to Pacifica?" Piri asked.

She reclined on the sand with her hands behind her head, looking very relaxed.

"Claustrophobia." She winked at him. "Not really. I wouldn't survive long in Pluto with *that*." Piri wasn't even sure what it was, but he smiled as if he knew. "Tired of the crowds. I heard that people couldn't enjoy themselves here, what with the sky, but I didn't have any trouble when I visited. So I bought flippers and gills and decided to spend a few weeks skin-diving by myself."

Piri looked at the sky. It was a staggering sight. He'd grown used to it, but knew that it helped not to look up more than he had to.

It was an incomplete illusion, all the more appalling because the half of the sky that had been painted was so very convincing. It looked like it really was the sheer blue of infinity, so when the eye slid over to the unpainted overhanging canopy of rock, scarred from blasting, painted with gigantic numbers that were barely visible from twenty kilometers below—one could almost imagine God looking down through the blue opening. It loomed, suspended by nothing, gigatons of rock hanging up there.

Visitors to Pacifica often complained of headaches, usually right on the crown of the head. They were cringing, waiting to get conked.

"Sometimes I wonder how *I* live with it," Piri said.

She laughed. "It's nothing for me. I was a space pilot once."

"Really?" This was catnip to Piri. There's nothing more romantic than a space pilot. He had to hear stories.

The morning hours dwindled as she captured his imagination

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with a series of tall tales he was sure were mostly fabrication. But who cared? Had he come to the South Seas to hear of the mundane? He felt he had met a kindred spirit, and gradually, fearful of being laughed at, he began to tell her stories of the Reef Pirates, first as wishful wouldn't-it-be-fun-if's, then more and more seriously as she listened intently. He forgot her age as he began to spin the best of the yarns he and Harra had concocted.

It was a tacit conspiracy between them to be serious about the stories, but that was the whole point. That was the only way it would work, as it had worked with Harra. Somehow, this adult woman was interested in playing the same games he was.

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Lying in his bed that night, Piri felt better than he had for months, since before Harra had become so distant. Now that he had a companion, he realized that maintaining a satisfying fantasy world by yourself is hard work. Eventually you need someone to tell the stories to, and to share in the making of them.

They spent the day out on the reef. He showed her his crab farm, and introduced her to Ocho the Octopus, who was his usual shy self. Piri suspected the damn thing only loved him for the treats he brought.

She entered into his games easily and with no trace of adult condescension. He wondered why, and got up the courage to ask her. He was afraid he'd ruin the whole thing, but he had to know. It just wasn't normal.

They were perched on a coral outcropping above the high tide level, catching the last rays of the sun.

"I'm not sure," she said. "I guess you think I'm silly, huh?"

"No, not exactly that. It's just that most adults seem to, well, have more 'important' things on their minds." He put all the contempt he could into the word.

"Maybe I feel the same way you do about it. I'm here to have fun. I sort of feel like I've been re-born into a new element. It's *terrific* down there, you know that. I just didn't feel like I wanted to go into that world alone. I was out there yesterday . . ."

"I thought I saw you."

"Maybe you did. Anyway, I needed a companion, and I heard about you. It seemed like the polite thing to, well, not to ask you to be my guide, but sort of fit myself into your world. As it were." She frowned, as if she felt she had said too much. "Let's not push

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it, all right?"

"Oh, sure. It's none of my business."

"I like you, Piri."

"And I like you. I haven't had a friend for . . . too long."

That night at the luau, Lee disappeared. Piri looked for her briefly, but was not really worried. What she did with her nights was her business. He wanted her during the days.

As he was leaving for his home, Harra came up behind him and took his hand. She walked with him for a moment, then could no longer hold it in.

"A word to the wise, old pal," she said. "You'd better stay away from her. She's not going to do you any good."

"What are you talking about? You don't even know her."

"Maybe I do."

"Well, do you or don't you?"

She didn't say anything, then sighed deeply.

"Piri, if you do the smart thing you'll get on that raft of yours and sail to Bikini. Haven't you had any . . . feelings about her? Any premonitions or anything?"

"I don't know what you're talking about," he said, thinking of sharp teeth and white death.

"I think you do. You have to, but you won't face it. That's all I'm saying. It's not my business to meddle in your affairs."

"I'll say it's not. So why did you come out here and put this stuff in my ear?" He stopped, and something tickled at his mind from his past life, some earlier bit of knowledge, carefully suppressed. He was used to it. He knew he was not really a child, and that he had a long life and many experiences stretching out behind him. But he didn't think about it. He hated it when part of his old self started to intrude on him.

"I think you're jealous of her," he said, and knew it was his old, cynical self talking. "She's an adult, Harra. She's no threat to you. And, hell, I know what you've been hinting at these last months. I'm not ready for it, so leave me alone. I'm just a kid."

Her chin came up, and the moonlight flashed in her eyes.

"You idiot. Have you looked at yourself lately? You're not Peter Pan, you know. You're growing up. You're damn near a man."

"That's not true." There was panic in Piri's voice. "I'm only . . . well, I haven't exactly been counting, but I can't be more than nine, ten years—"

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"Shit. You're as old as I am, and I've had breasts for two years. But I'm not out to cop you. I can cop with any of seven boys in the village younger than you are, but not you." She threw her hands up in exasperation and stepped back from him. Then, in a sudden fury, she hit him on the chest with the heel of her fist. He fell back, stunned at her violence.

"She *is* an adult," Harra whispered through her teeth. "That's what I came here to warn you against. *I'm* your friend, but you don't know it. Ah, what's the use? I'm fighting against that scared old man in your head, and he won't listen to me. Go ahead, go with her. But she's got some surprises for you."

"What? What surprises?" Piri was shaking, not wanting to listen to her. It was a relief when she spat at his feet, whirled, and ran down the beach.

"Find out for yourself," she yelled back over her shoulder. It sounded like she was crying.

That night, Piri dreamed of white teeth, inches behind him, snapping.

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But morning brought Lee, and another fine breakfast in her bulging bag. After a lazy interlude drinking coconut milk, they went to the reef again. The pirates gave them a rough time of it, but they managed to come back alive in time for the nightly gathering.

Harra was there. She was dressed as he had never seen her, in the blue tunic and shorts of the reef maintenence crew. He knew she had taken a job with the disneyland and had been working days with her mother at Bikini, but had not seen her dressed up before. He had just begun to get used to the grass skirt. Not long ago, she had been always nude like him and the other children.

She looked older somehow, and bigger. Maybe it was just the uniform. She still looked like a girl next to Lee. Piri was confused by it, and his thoughts veered protectively away.

Harra did not avoid him, but she was remote in a more important way. It was like she had put on a mask, or possibly taken one off. She carried herself with a dignity that Piri thought was beyond her years.

Lee disappeared just before he was ready to leave. He walked home alone, half hoping Harra would show up so he could apologize for the way he'd talked to her the night before. But she

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didn't.

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He felt the bow-shock of a pressure wave behind him, sensed by some mechanism he was unfamiliar with, like the lateral line of a fish, sensitive to slight changes in the water around him. He knew there was something behind him, closing the gap a little with every wild kick of his flippers.

It was dark. It was always dark when the thing chased him. It was not the wispy, insubstantial thing that darkness was when it settled on the night air, but the primal, eternal night of the depths. He tried to scream with his mouth full of water, but it was a dying gurgle before it passed his lips. The water around him was warm with his blood.

He turned to face it before it was upon him, and saw Harra's face corpse-pale and glowing sickly in the night. But no, it wasn't Harra, it was Lee, and her mouth was far down her body, rimmed with razors, a gaping crescent hole in her chest. He screamed again—

And sat up.

"What? Where are you?"

"I'm right here, it's going to be all right." She held his head as he brought his sobbing under control. She was whispering something but he couldn't understand it, and perhaps wasn't meant to. It was enough. He calmed down quickly, as he always did when he woke from nightmares. If they hung around to haunt him, he never would have stayed by himself for so long.

There was just the moon-lit paleness of her breast before his eyes and the smell of skin and sea water. Her nipple was wet. Was it from his tears? No, his lips were tingling and the nipple was hard when it brushed against him. He realized what he had been doing in his sleep.

"You were calling for your mother," she whispered, as though she'd read his mind. "I've heard you shouldn't wake someone from a nightmare. It seemed to calm you down."

"Thanks," he said, quietly. "Thanks for being here, I mean."

She took his cheek in her hand, turned his head slightly, and kissed him. It was not a motherly kiss, and he realized they were not playing the same game. She had changed the rules on him.

"Lee . . ."

"Hush. It's time you learned."

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She eased him onto his back, and he was overpowered with *deja vu*. Her mouth worked downward on his body and it set off chains of associations from his past life. He was familiar with the sensation. It had happened to him often in his second childhood. Something would happen that had happened to him in much the same way before and he would remember a bit of it. He had been seduced by an older woman the first time he was young. She had taught him well, and he remembered it all but didn't want to remember. He was an experienced lover and a child at the same time.

"I'm not old enough," he protested, but she was holding in her hand the evidence that he was old enough, had been old enough for several years. *I'm fourteen years old,* he thought. How could he have kidded himself into thinking he was ten?

"You're a strong young man," she whispered in his ear. "And I'm going to be very disappointed if you keep saying that. You're not a child-anymore, Piri. Face it."

"I . . . I guess I'm not."

"Do you know what to do?"

"I think so."

She reclined beside him, drew her legs up. Her body was huge and ghostly and full of limber strength. She would swallow him up, like a shark. The gill slits under her arms opened and shut quickly with her breathing, smelling of salt, iodine, and sweat.

He got on his hands and knees and moved over her.

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He woke before she did. The sun was up: another warm, cloudless morning. There would be two thousand more before the first scheduled typhoon.

Piri was a giddy mixture of elation and sadness. It was sad, and he knew it already, that his days of frolicking on the reef were over. He would still go out there, but it would never be the same.

Fourteen years old! Where had the years gone? He was nearly an adult. He moved away from the thought until he found a more acceptable one. He was an adolescent, and a very fortunate one to have been initiated into the mysteries of sex by this strange woman.

He held her as she slept, spooned cozily back to front with his arms around her waist. She had already been playmate, mother, and lover to him. What else did she have in store?

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But he didn't care. He was not worried about anything. He already scorned his yesterdays. He was not a boy, but a youth, and he remembered from his other youth what that meant and was excited by it. It was a time of sex, of internal exploration and the exploration of others. He would pursue these new frontiers with the same single-mindedness he had shown on the reef.

He moved against her, slowly, not disturbing her sleep. But she woke as he entered her and turned to give him a sleepy kiss.

They spent the morning involved in each other, until they were content to lie in the sun and soak up heat like glossy reptiles.

"I can hardly believe it," she said. "You've been here for . . . how long? With all these girls and women. And I know at least one of them was interested."

He didn't want to go into it. It was important to him that she not find out he was not really a child. He felt it would change things, and it was not fair. Not fair at all, because it *had* been the first time. In a way he could never have explained to her, last night had been not a re-discovery but an entirely new thing. He had been with many women and it wasn't as if he couldn't remember it. It was all there, and what's more, it showed up in his love-making. He had not been the bumbling teenager, had not needed to be told what to do.

But it was *new*. That old man inside had been a spectator and an invaluable coach, but his hardened viewpoint had not intruded to make last night just another bout. It had been a first time, and the first time is special.

When she persisted in her questions he silenced her in the only way he knew, with a kiss. He could see he had to re-think his relationship to her. She had not asked him questions as a playmate, or a mother. In the one role, she had been seemingly as self-centered as he, interested only in the needs of the moment and her personal needs above all. As a mother, she had offered only wordless comfort in a tight spot.

Now she was his lover. What did lovers do when they weren't making love?

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They went for walks on the beach, and on the reef. They swam together, but it was different. They talked a lot.

She soon saw that he didn't want to talk about himself. Except for the odd question here and there that would momentarily con-

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fuse him, throw him back to stages of his life he didn't wish to remember, she left his past alone.

They stayed away from the village except to load up on supplies. It was mostly his unspoken wish that kept them away. He had made it clear to everyone in the village many years ago that he was not really a child. It had been necessary to convince them that he could take care of himself on his own, to keep them from being over-protective. They would not spill his secret knowingly, but neither would they lie for him.

So he grew increasingly nervous about his relationship with Lee, founded as it was on a lie. If not a lie, then at least a withholding of the facts. He saw that he must tell her soon, and dreaded it. Part of him was convinced that her attraction to him was based mostly on age difference.

Then she learned he had a raft, and wanted to go on a sailing trip to the edge of the world.

Piri did have a raft, though an old one. They dragged it from the bushes that had grown around it since his last trip and began putting it into shape. Piri was delighted. It was something to do, and it was hard work. They didn't have much time for talking.

It was a simple construction of logs lashed together with rope. Only an insane sailor would put the thing to sea in the Pacific Ocean, but it was safe enough for them. They knew what the weather would be, and the reports were absolutely reliable. And if it came apart, they could swim back.

All the ropes had rotted so badly that even gentle wave action would have quickly pulled it apart. They had to be replaced, a new mast erected, and a new sailcloth installed. Neither of them knew anything about sailing, but Piri knew that the winds blew toward the edge at night and away from it during the day. It was a simple matter of putting up the sail and letting the wind do the navigating.

He checked the schedule to be sure they got there at low tide. It was a moonless night, and he chuckled to himself when he thought of her reaction to the edge of the world. They would sneak up on it in the dark, and the impact would be all the more powerful at sunrise.

But he knew as soon as they were an hour out of Rarotonga that he had made a mistake. There was not much to do there in the night but talk.

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"Piri, I've sensed that you don't want to talk about certain things."

"Who? Me?"

She laughed into the empty night. He could barely see her face. The stars were shining brightly, but there were only about a hundred of them installed so far, and all in one part of the sky.

"Yeah, you. You won't talk about yourself. It's like you grew here, sprang up from the ground like a palm tree. And you've got no mother in evidence. You're old enough to have divorced her, but you'd have a guardian somewhere. Someone would be looking after your moral upbringing. The only conclusion is that you don't need an education in moral principles. So you've got a co-pilot."

"Um." She had seen through him. Of course she would have. Why hadn't he realized it?

"So you're a clone. You've had your memories transplanted into a new body, grown from one of your own cells. How old are you? Do you mind my asking?"

"I guess not. Uh . . . what's the date?"

She told him.

"And the year?"

She laughed, but told him that, too.

"Damn. I missed my one hundredth birthday. Well, so what? It's not important. Lee, does this change anything?"

"Of course not. Listen, I could tell the first time, that first night together. You had that puppy-dog eagerness, all right, but you knew how to handle yourself. Tell me: what's it like?"

"The second childhood, you mean?" He reclined on the gently rocking raft and looked at the little clot of stars. "It's pretty damn great. It's like living in a dream. What kid hasn't wanted to live alone on a tropic isle? I can, because there's an adult in me who'll keep me out of trouble. But for the last seven years I've been a kid. It's you that finally made me grow up a little, maybe sort of late, at that."

"I'm sorry. But it felt like the right time."

"It was. I was afraid of it at first. Listen, I *know* that I'm really a hundred years old, see? I know that all the memories are ready for me when I get to adulthood again. If I think about it, I can remember it all as plain as anything. But I haven't wanted to, and in a way, I still don't want to. The memories are suppressed when you opt for a second childhood instead of being transplanted

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into another full-grown body."

"I know."

"Do you? Oh, yeah. Intellectually. So did I, but I didn't understand what it meant. It's a nine or ten-year holiday, not only from your work, but from yourself. When you get into your nineties, you might find that you need it."

She was quiet for a while, lying beside him without touching.

"What about the re-integration? Is that started?"

"I don't know. I've heard it's a little rough. I've been having dreams about something chasing me. That's probably my former self, right?"

"Could be. What did your older self do?"

He had to think for a moment, but there it was. He'd not thought of it for eight years.

"I was an economic strategist."

Before he knew it, he found himself launching into an explanation of offensive economic policy.

"Did you know that Pluto is in danger of being gutted by currency transfers from the Inner Planets? And you know why? The speed of light, that's why. Time lag. It's killing us. Since the time of the Invasion of Earth it's been humanity's idea—and a good one, I think—that we should stand together. Our whole cultural thrust in that time has been toward a total economic community. But it won't work at Pluto. Independence is in the cards."

She listened as he tried to explain things that only moments before he would have had trouble understanding himself. But it poured out of him like a breached dam, things like inflation multipliers, futures buying on the oxygen and hydrogen exchanges, phantom dollars and their manipulation by central banking interests, and the invisible drain.

"Invisible drain? What's that?"

"It's hard to explain, but it's tied up in the speed of light. It's an economic drain on Pluto that has nothing to do with real goods and services, or labor, or any of the other traditional forces. It has to do with the fact that any information we get from the Inner Planets is already at least nine hours old. In an economy with a stable currency—pegged to gold, for instance, like the classical economies on Earth—it wouldn't matter much, but it would still have an effect. Nine hours can make a difference in prices, in futures, in outlook on the markets. With a floating exchange medi-

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um, one where you need the hourly updates on your credit meter to know what your labor input will give you in terms of material output—your personal financial equation, in other words—and the inflation multiplier is something you simply *must* have if the equation is going to balance and you're not going to be wiped out, then time is really of the essence. We operate at a perpetual disadvantage on Pluto in relation to the Inner Planet money markets. For a long time it ran on the order of point three percent leakage due to outdated information. But the inflation multiplier has been accelerating over the years. Some of it's been absorbed by the fact that we've been moving closer to the I.P.; the time lag has been getting shorter as we move into summer. But it can't last. We'll reach the inner point of our orbit and the effects will really start to accelerate. Then it's war."

"War?" She seemed horrified, as well she might be.

"War, in the economic sense. It's a hostile act to renounce a trade agreement, even if it's bleeding you white. It hits every citizen of the Inner Planets in the pocketbook, and we can expect retaliation. We'd be introducing instability by pulling out of the Common Market."

"How bad will it be? Shooting?"

"Not likely. But devastating enough. A depression's no fun. And they'll be planning one for us."

"Isn't there any other course?"

"Someone suggested moving our entire government and all our corporate headquarters to the Inner Planets. It could happen, I guess. But who'd feel like it was ours? We'd be a colony, and that's a worse answer than independence, in the long run."

She was silent for a time, chewing it over. She nodded her head once; he could barely see the movement in the darkness.

"How long until the war?"

He shrugged. "I've been out of touch. I don't know how things have been going. But we can probably take it for another ten years or so. Then we'll have to get out. I'd stock up on real wealth if I were you. Canned goods, air, water, so forth. I don't think it'll get so bad that you'll need those things to stay alive by consuming them. But we may get to a semi-barter situation where they'll be the only valuable things. Your credit meter'll laugh at you when you punch a purchase order, no matter how much work you've put into it."

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The raft bumped. They had arrived at the edge of the world.

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They moored the raft to one of the rocks on the wall that rose from the open ocean. They were five kilometers out of Rarotonga. They waited for some light as the sun began to rise, then started up the rock face.

It was rough: blasted out with explosives on this face of the dam. It went up at a thirty degree angle for fifty meters, then was suddenly level and smooth as glass. The top of the dam at the edge of the world had been smoothed by cutting lasers into a vast table top, three hundred kilometers long and four kilometers wide. They left wet footprints on it as they began the long walk to the edge.

They soon lost any meaningful perspective on the thing. They lost sight of the sea-edge, and couldn't see the drop-off until they began to near it. By then, it was full light. Timed just right, they would reach the edge when the sun came up and they'd really have something to see.

A hundred meters from the edge when she could see over it a little, Lee began to unconsciously hang back. Piri didn't prod her. It was not something he could force someone to see. He'd reached this point with others, and had to turn back. Already, the fear of falling was building up. But she came on, to stand beside him at the very lip of the canyon.

Pacifica was being built and filled in three sections. Two were complete, but the third was still being hollowed out and was not yet filled with water except in the deepest trenches. The water was kept out of this section by the dam they were standing on. When it was completed, when all the underwater trenches and mountain ranges and guyots and slopes had been built to specifications, the bottom would be covered with sludge and ooze and the whole wedge-shaped section flooded. The water came from liquid hydrogen and oxygen on the surface, combined with the limitless electricity of fusion powerplants.

"We're doing what the Dutch did on Old Earth, but in reverse," Piri pointed out, but he got no reaction from Lee. She was staring, spellbound, down the sheer face of the dam to the apparently bottomless trench below. It was shrouded in mist, but seemed to fall off forever.

"It's eight kilometers deep," Piri told her. "It's not going to be a

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regular trench when it's finished. It's there to be filled up with the remains of this dam after the place has been flooded." He looked at her face, and didn't bother with more statistics. He let her experience it in her own way.

The only comparable vista on a human-inhabited planet was the Great Rift Valley on Mars. Neither of them had seen it, but it suffered in comparison to this because not all of it could be seen at once. Here, one could see from one side to the other, and from sea level to a distance equivalent to the deepest oceanic trenches on Earth. It simply fell away beneath them and went straight down to nothing. There was a rainbow beneath their feet. Off to the left was a huge waterfall that arced away from the wall in a solid stream. Tons of overflow water went through the wall, to twist, fragment, vaporize and blow away long before it reached the bottom of the trench.

Straight ahead of them and about ten kilometers away was the mountain that would become the Okinawa biome when the pit was filled. Only the tiny, blackened tip of the mountain would show above the water.

Lee stayed and looked at it as long as she could. It became easier the longer one stood there, and yet something about it drove her away. The scale was too big, there was no room for humans in that shattered world. Long before noon, they turned and started the long walk back to the raft.

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She was silent as they boarded and set sail for the return trip. The winds were blowing fitfully, barely billowing the sail. It would be another hour before they blew very strongly. They were still in sight of the dam wall.

They sat on the raft, not looking at each other.

"Piri, thanks for bringing me here."

"You're welcome. You don't have to talk about it."

"All right. But there's something else I have to talk about. I . . . I don't know where to begin, really."

Piri stirred uneasily. The earlier discussion about economics had disturbed him. It was part of his past life, a part that he had not been ready to return to. He was full of confusion. Thoughts that had no place out here in the concrete world of wind and water were roiling through his brain. Someone was calling to him, someone he knew but didn't want to see right then.

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"Yeah? What is it you want to talk about?"

"It's about—" she stopped, seemed to think it over. "Never mind. It's not time yet." She moved close and touched him. But he was not interested. He made it known in a few minutes, and she moved to the other side of the raft.

He lay back, essentially alone with his troubled thoughts. The wind gusted, then settled down. He saw a flying fish leap, almost passing over the raft. There was a piece of the sky falling through the air. It twisted and turned like a feather, a tiny speck of sky that was blue on one side and brown on the other. He could see the hole in the sky where it had been knocked loose.

It must be two or three kilometers away. No, wait, that wasn't right. The top of the sky was twenty kilometers up, and it looked like it was falling from the center. How far away were they from the center of Pacifica? A hundred kilometers?

A piece of the sky?

He got to his feet, nearly capsizing the raft.

"What's the matter?"

It was *big*. It looked large even from this far away. It was the dreamy tumbling motion that had deceived him.

"The sky is . . ." he choked on it, and almost laughed. But this was no time to feel silly about it. "The sky is falling, Lee." How long? He watched it, his mind full of numbers. Terminal velocity from that high up, assuming it was heavy enough to punch right through the atmosphere . . . over six hundred meters per second. Time to fall, seventy seconds. Thirty of those must already have gone by.

Lee was shading her eyes as she followed his gaze. She still thought it was a joke. The chunk of sky began to glow red as the atmosphere got thicker.

"Hey, it really is falling," she said. "Look at that."

"It's big. Maybe one or two kilometers across. It's going to make quite a splash, I'll bet."

They watched it descend. Soon it disappeared over the horizon, picking up speed. They waited, but the show seemed to be over. Why was he still uneasy?

"How many tons in a two-kilometer chunk of rock, I wonder?" Lee mused. She didn't look too happy, either. But they sat back down on the raft, still looking in the direction where the thing had sunk into the sea.

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Then they were surrounded by flying fish, and the water looked crazy. The fish were panicked. As soon as they hit they leaped from the water again. Piri felt rather than saw something pass beneath them. And then, very gradually, a roar built up, a deep bass rumble that soon threatened to turn his bones to powder. It picked him up and shook him, and left him limp on his knees. He was stunned, unable to think clearly. His eyes were still fixed on the horizon, and he saw a white fan rising in the distance in silent majesty. It was the spray from the impact, and it was still going up.

"Look up there," Lee said, when she got her voice back. She seemed as confused as he. He looked where she pointed and saw a twisted line crawling across the blue sky. At first he thought it was the end of his life, because it appeared that the whole overhanging dome was fractured and about to fall in on them. But then he saw it was one of the tracks that the sun ran on, pulled free by the rock that had fallen, twisted into a snake of tortured metal.

"The dam!" he yelled. "The dam! We're too close to the dam!"

"What?"

"The bottom rises this close to the dam. The water here isn't that deep. There'll be a wave coming, Lee; a big wave. It'll pile up here."

"Piri, the shadows are moving."

"Huh?"

Surprise was piling on surprise too fast for him to cope with it. But she was right. The shadows were moving. But *why?*

Then he saw it. The sun was setting, but not by following the tracks that led to the concealed opening in the west. It was falling through the air, having been shaken loose by the rock.

Lee had figured it out, too.

"What is that thing?" she asked. "I mean, how big is it?"

"Not too big, I heard. Big enough, but not nearly the size of that chunk that fell. It's some kind of fusion generator. I don't know what'll happen when it hits the water."

They were paralyzed. They knew there was something they should do, but too many things were happening. There was not time to think it out.

"Dive!" Lee yelled. "Dive into the water!"

"What?"

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"We have to dive and swim away from the dam, and down as far as we can go. The wave will pass over us, won't it?"

"I don't know."

"It's all we can do."

So they dived. Piri felt his gills come into action, then he was swimming down at an angle toward the dark-shrouded bottom. Lee was off to his left, swimming as hard as she could. And with no sunset, no warning, it got black as pitch. The sun had hit the water.

He had no idea how long he had been swimming when he suddenly felt himself pulled upward. Floating in the water, weightless, he was not well equipped to feel accelerations. But he did feel it, like a rapidly rising elevator. It was accompanied by pressure waves that threatened to burst his eardrums. He kicked and clawed his way downward, not even knowing if he was headed in the right direction. Then he was falling again.

He kept swimming, all alone in the dark. Another wave passed, lifted him, let him down again. A few minutes later, another one, seeming to come from the other direction. He was hopelessly confused. He suddenly felt he was swimming the wrong way. He stopped, not knowing what to do. Was he pointed in the right direction? He had no way to tell.

He stopped paddling and tried to orient himself. It was useless. He felt surges, and was sure he was being tumbled and buffeted.

Then his skin was tingling with the sensation of a million bubbles crawling over him. It gave him a handle on the situation. The bubbles would be going up, wouldn't they? And they were traveling over his body from belly to back. So down was *that* way.

But he didn't have time to make use of the information. He hit something hard with his hip, wrenched his back as his body tried to tumble over in the foam and water, then was sliding along a smooth surface. It felt like he was going very fast, and he knew where he was and where he was heading and there was nothing he could do about it. The tail of the wave had lifted him clear of the rocky slope of the dam and deposited him on the flat surface. It was now spending itself, sweeping him along to the edge of the world. He turned around, feeling the sliding surface beneath him with his hands, and tried to dig in. It was a nightmare; nothing he did had any effect. Then his head broke free into the air.

He was still sliding, but the huge hump of the wave had dissi-

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pated itself and was collapsing quietly into froth and puddles. It drained away with amazing speed. He was left there, alone, cheek pressed lovingly to the cold rock. The darkness was total.

He wasn't about to move. For all he knew, there was an eight-kilometer drop just behind his toes.

Maybe there would be another wave. If so, this one would crash down on him instead of lifting him like a cork in a tempest. It should kill him instantly. He refused to worry about that. All he cared about now was not slipping any further.

The stars had vanished. Power failure? Now they blinked on. He raised his head a little, in time to see a soft, diffused glow in the east. The moon was rising, and it was doing it at breakneck speed. He saw it rotate from a thin crescent configuration to bright fullness in under a minute. Someone was still in charge, and had decided to throw some light on the scene.

He stood, though his knees were weak. Tall fountains of spray far away to his right indicated where the sea was battering at the dam. He was about in the middle of the tabletop, far from either edge. The ocean was whipped up as if by thirty hurricanes, but he was safe from it at this distance unless there were another tsunami yet to come.

The moonlight turned the surface into a silver mirror, littered with flopping fish. He saw another figure get to her feet, and ran in that direction.

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The helicopter located them by infrared detector. They had no way of telling how long it had been. The moon was hanging motionless in the center of the sky.

They got into the cabin, shivering.

The helicopter pilot was happy to have found them, but grieved over other lives lost. She said the toll stood at three dead, fifteen missing and presumed dead. Most of these had been working on the reefs. All the land surface of Pacifica had been scoured, but the loss of life had been minimal. Most had had time to get to an elevator and go below or to a helicopter and rise above the devastation.

From what they had been able to find out, heat expansion of the crust had moved farther down into the interior of the planet than had been expected. It was summer on the surface, something it was easy to forget down here. The engineers had been sure that

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the inner surface of the sky had been stabilized years ago, but a new fault had been opened by the slight temperature rise. She pointed up to where ships were hovering like fireflies next to the sky, playing searchlights on the site of the damage. No one knew yet if Pacifica would have to be abandoned for another twenty years while it stabilized.

She set them down on Rarotonga. The place was a mess. The wave had climbed the bottom rise and crested at the reef, and a churning hell of foam and debris had swept over the island. Little was left standing except the concrete blocks that housed the elevators, scoured of their decorative camouflage.

Piri saw a familiar figure coming toward him through the wreckage that had been a picturesque village. She broke into a run, and nearly bowled him over, laughing and kissing him.

"We were sure you were dead," Harra said, drawing back from him as if to check for cuts and bruises.

"It was a fluke, I guess," he said, still incredulous that he had survived. It had seemed bad enough out there in the open ocean; the extent of the disaster was much more evident on the island. He was badly shaken to see it.

"Lee suggested that we try to dive under the wave. That's what saved us. It just lifted us up, then the last one swept us over the top of the dam and drained away. It dropped us like leaves."

"Well, not quite so tenderly in my case," Lee pointed out. "It gave me quite a jolt. I think I might have sprained my wrist."

A medic was available. While her wrist was being bandaged, she kept looking at Piri. He didn't like the look.

"There's something I'd intended to talk to you about on the raft, or soon after we got home. There's no point in your staying here any longer anyway, and I don't know where you'd go."

"No!" Harra burst out. "Not yet. Don't tell him anything yet. It's not fair. Stay away from him." She was protecting Piri with her body, from no assault that was apparent to him.

"I just wanted to—"

"No, no. Don't listen to her, Piri. Come with me." She pleaded with the other woman. "Just give me a few hours alone with him, there's some things I never got around to telling him."

Lee looked undecided, and Piri felt mounting rage and frustration. He had known things were going on around him. It was mostly his own fault that he had ignored them, but now he had to

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know. He pulled his hand free from Harra and faced Lee.

"Tell me."

She looked down at her feet, then back to his eyes.

"I'm not what I seem, Piri. I've been leading you along, trying to make this easier for you. But you still fight me. I don't think there's any way it's going to be easy."

"No!" Harra shouted again.

"What are you?"

"I'm a psychiatrist. I specialize in retrieving people like you, people who are in a mental vacation mode, what you call 'second childhood.' You're aware of all this, on another level, but the child in you has fought it at every stage. The result has been nightmares—probably with me as the focus, whether you admitted it or not."

She grasped both his wrists, one of them awkwardly because of her injury.

"Now listen to me." She spoke in an intense whisper, trying to get it all out before the panic she saw in his face broke free and sent him running. "You came here for a vacation. You were going to stay ten years, growing up and taking it easy. That's all over. The situation that prevailed when you left is now out of date. Things have moved faster than you believed possible. You had expected a ten-year period after your return to get things in order for the coming battles. That time has evaporated. The Common Market of the Inner Planets has fired the first shot. They've instituted a new system of accounting and it's locked into their computers and running. It's aimed right at Pluto, and it's been working for a month now. We cannot continue as an economic partner to the C.M.I.P., because from now on every time we sell or buy or move money the inflationary multiplier is automatically juggled against us. It's all perfectly legal by all existing treaties, and it's necessary to their economy. But it ignores our time-lag disadvantage. We have to consider it as a hostile act, no matter what the intent. You have to come back and direct the war, Mister Finance Minister."

The words shattered what calm Piri had left. He wrenched free of her hands and turned wildly to look all around him. Then he sprinted down the beach. He tripped once over his splay feet, got up without ever slowing, and disappeared.

Harra and Lee stood silently and watched him go.

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"You didn't have to be so rough with him," Harra said, but knew it wasn't so. She just hated to see him so confused.

"It's best done quickly when they resist. And he's all right. He'll have a fight with himself, but there's no real doubt of the outcome."

"So the Piri I know will be dead soon?"

Lee put her arm around the younger woman.

"Not at all. It's a re-integration, without a winner or a loser. You'll see." She looked at the tear-streaked face.

"Don't worry. You'll like the older Piri. It won't take him any time at all to realize that he loves you."

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He had never been to the reef at night. It was a place of furtive fish, always one step ahead of him as they darted back into their places of concealment. He wondered how long it would be before they ventured out in the long night to come. The sun might not rise for years.

They might never come out. Not realizing the changes in their environment, night fish and day fish would never adjust. Feeding cycles would be disrupted, critical temperatures would go awry, the endless moon and lack of sun would frustrate the internal mechanisms, bred over billions of years, and fish would die. It had to happen.

The ecologists would have quite a job on their hands.

But there was one denizen of the outer reef that would survive for a long time. He would eat anything that moved and quite a few things that didn't, at any time of the day or night. He had no fear, he had no internal clocks dictating to him, no inner pressures to confuse him except the one overriding urge to attack. He would last as long as there was anything alive to eat.

But in what passed for a brain in the white-bottomed torpedo that was the Ghost, a splinter of doubt had lodged. He had no recollection of similar doubts, though there had been some. He was not equipped to remember, only to hunt. So this new thing that swam beside him, and drove his cold brain as near as it could come to the emotion of anger, was a mystery. He tried again and again to attack it, then something would seize him with an emotion he had not felt since he was half a meter long, and fear would drive him away.

Piri swam along beside the faint outline of the shark. There

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was just enough moonlight for him to see the fish, hovering at the ill-defined limit of his sonic signal. Occasionally, the shape would shudder from head to tail, turn toward him, and grow larger. At these times Piri could see nothing but a gaping jaw. Then it would turn quickly, transfix him with that bottomless pit of an eye, and sweep away.

Piri wished he could laugh at the poor, stupid brute. How could he have feared such a mindless eating machine?

Good-bye, pinbrain. He turned and stroked lazily toward the shore. He knew the shark would turn and follow him, nosing into the interdicted sphere of his transponder, but the thought did not impress him. He was without fear. How could he be afraid, when he had already been swallowed into the belly of his nightmare? The teeth had closed around him, he had awakened, and remembered. And that was the end of his fear.

Good-bye, tropical paradise. You were fun while you lasted. Now I'm a grown-up, and must go off to war.

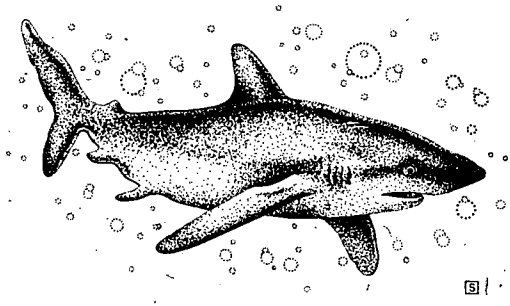
He didn't relish it. It was a wrench to leave his childhood, though the time had surely been right. Now the responsibilities had descended on him, and he must shoulder them. He thought of Harra.

"Piri," he told himself, "as a teenager, you were just too dumb to live."

Knowing it was the last time, he felt the coolness of the water flowing over his gills. They had served him well, but had no place in his work. There was no place for a fish, and no place for Robinson Crusoe.

Good-bye, gills.

He kicked harder for the shore and came to stand, dripping wet, on the beach. Harra and Lee were there, waiting for him.



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THE DOCTORS' DILEMMA
by Martin Gardner

Here is the first of a series of SF puzzles that Mr. Gardner has promised us.

The first earth colony on Mars has been swept by an epidemic of Barsoomian flu. The cause: a native Martian virus not yet isolated.

There is no way to identify a newly infected person until the symptoms appear weeks later. The flu is highly contagious, but only by direct contact. The virus transfers readily from flesh to flesh, or from flesh to any object which in turn can contaminate any flesh it touches. Residents are going to extreme lengths to avoid touching one another, or touching objects that may be contaminated.

Ms. Hooker, director of the colony, has been seriously injured in a rocket accident. Three immediate operations are required. The first will be performed by Dr. Xenophon, the second by Dr. Ypsilanti, the third by Dr. Zeno. Any of the surgeons may be infected with Barsoomian flu. Ms. Hooker, too, may have caught the disease.

Just before the first operation it is discovered that the colony's hospital has only two pairs of sterile surgeon's gloves. No others are obtainable and there is no time for resterilizing. Each surgeon must operate with both hands.

"I don't see how we can avoid the risk of one of us becoming infected," says Dr. Xenophon to Dr. Zeno. "When I operate, my hands may contaminate the insides of my gloves. Ms. Hooker's body may contaminate the outsides. The same thing will happen to the gloves worn by Dr. Ypsilanti. When it's your turn, you'll have to wear gloves that could be contaminated on both sides."

"*Au contraire*," says Dr. Zeno, who had taken a course in topology when he was a young medical student in Paris. "There's a simple procedure that will eliminate all risk of any of us catching the flu from one another or from Ms. Hooker."

What does Dr. Zeno have in mind? Try to work it out before turning to page 139 for the answer.

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THINK!
by Isaac Asimov

Here's the Good Doctor's most recent short story—about a kind of beginning—for our first issue.

Genevieve Renshaw, M.D., had her hands deep in the pockets of her lab coat, and her fists were clearly outlined within, but she spoke calmly.

"The fact is," she said, "that I'm almost ready, but I'll need help to keep it going long enough to *be* ready."

James Berkowitz, a physicist who patronized mere physicians when they were too attractive to be despised, had a tendency to call her Jenny Wren when out of hearing. He was fond of saying that Jenny Wren had a classic profile and a brow surprisingly smooth and unlined considering that behind it so keen a brain ticked. He knew better than to express his admiration, however—of the classic profile, that is—since that would be male chauvinism. Admiring the brain was better, but on the whole he preferred not to do that out loud in her presence.

He said, thumb rasping along the just-appearing stubble on his chin, "I don't think the front office is going to be patient for much longer. The impression I have is that they're going to have you on the carpet before the end of the week."

"That's why I need your help."

"Nothing I can do, I'm afraid." He caught an unexpected glimpse of his face in the mirror, and momentarily admired the set of the black waves in his hair.

"And Adam's," she said.

Adam Orsino, who had till that moment sipped his coffee feeling detached, looked as though he had been jabbed from behind and said, "Why me?" His full, plump lips quivered.

"Because you're the laser men here—Jim the theoretician and Adam the engineer—and I've got a laser application that goes beyond anything either of you have imagined. I can't convince them of that but you two could."

"Provided," said Berkowitz, "that you can convince us first."

"All right. Suppose you let me have an hour of your valuable

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time, if you're not afraid to be shown something completely new about lasers. You can take it out of your coffee break."

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Renshaw's laboratory was dominated by her computer system. It was not that the computer was unusually large, but it was virtually omnipresent. Renshaw had learned computer technology on her own, and had modified and extended her computer system until no one but she (and, Berkowitz sometimes believed, not even she) could handle it with ease. Not bad, she would say, for someone in the life-sciences.

She closed the door before saying a word, then turned to face the other two somberly. Berkowitz was uncomfortably aware of a faintly unpleasant odor in the air, and Orsino's wrinkling nose showed that he was aware of it, too.

Renshaw said, "Let me list the laser applications for you, if you don't mind my lighting a candle in the sunshine. The laser is coherent radiation, with all the light-waves of the same length and moving in the same direction, so it's noise-free and can be used in holography. By modulating the wave-forms we can imprint information on it with a high degree of accuracy. What's more, since the light-waves are only a millionth the length of radio waves, a laser beam can carry a million times the information an equivalent radio beam can."

Berkowitz seemed amused, "Are you working on a laser-based communication system, Jenny?"

"Not at all," she replied. "I leave such obvious advances to physicists and engineers. Lasers can also concentrate quantities of energy into a microscopic area and deliver that energy in quantity. On a large scale you can implode hydrogen and perhaps begin a controlled fusion reaction—"

"I know you don't have that," said Orsino, his bald head glistening in the overhead fluorescents.

"I don't. I haven't tried. On a smaller scale, you can drill holes in the most refractory materials, weld selected bits, heat-treat them, gouge and scribe them. You can remove or fuse tiny portions in restricted areas with heat delivered so rapidly that surrounding areas have no time to warm up before the treatment is over. You can work on the retina of the eye, the dentine of the teeth and so on. And of course the laser is an amplifier capable of magnifying weak signals with great accuracy."

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"And why do you tell us all this?" asked Berkowitz.

"To point out how these properties can be made to fit my own field, which, you know, is neurophysiology."

She made a brushing motion with her hand at her brown hair, as though she were suddenly nervous. "For decades," she said, "we've been able to measure the tiny, shifting electric potentials of the brain and record them as electroencephalograms, or EEG's. We've got alpha waves, beta waves, delta waves, theta waves; different variations at different times, depending on whether eyes are open or closed, whether the subject is awake, meditating, or asleep. But we've gotten very little information out of it all.

"The trouble is that we're getting the signals of ten billion neurons in shifting combinations. It's like listening to the noise of all the human beings on Earth—on two and a half Earths—from a great distance and trying to make out individual conversations. It can't be done. We could detect some gross, overall change—a world war and the rise in the volume of noise—but nothing finer. In the same way, we can tell some gross malfunction of the brain—epilepsy—but nothing finer.

"Suppose now, the brain might be scanned by a tiny laser-controlled beam, cell by cell, and so rapidly that at no time does a single cell receive enough energy to raise its temperature significantly. The tiny potentials of each cell can, in feedback, affect the beam; and the modulations can be amplified and recorded. You will then get a new kind of measurement, a laser-encephalogram, or LEG, if you wish, which will contain millions of times as much information as ordinary EEG's."

Berkowitz said, "A nice thought. But just a thought."

"More than a thought, Jim. I've been working on it for five years, spare time at first. Lately, it's been full time, which is what annoys the front office, because I haven't been sending in reports."

"Why not?"

"Because it got to the point where it sounded too mad; I had to know where I was and I had to be sure of getting backing first."

She pulled a screen aside and revealed a cage that contained a pair of mournful-eyed marmosets.

Berkowitz and Orsino looked at each other. Berkowitz touched his nose. "I thought I smelled something."

"What are you doing with those?" asked Orsino.

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Berkowitz said, "At a guess, she's been scanning the marmoset brain. Have you, Jenny?"

"I started considerably lower on the animal scale." She opened the cage and took out one of the marmosets, which looked at her with a miniature sad-old-man-with-sideburns expression.

She clucked to it, stroked it, and gently strapped it into a small harness.

Orsino said, "What are you doing?"

"I can't have it moving around if I'm going to make it part of a circuit, and I can't anesthetize it without vitiating the experiment. There are several electrodes implanted in the marmoset's brain and I'm going to connect them with my LEG system. The laser I'm using is here. I'm sure you recognize the model and I won't bother giving you its specifications."

"Thanks," said Berkowitz, "but you might tell us what we're going to see."

"It would be just as easy to show you. Just watch the screen."

She connected the leads to the electrodes with a quiet and sure efficiency, then turned a knob that dimmed the overhead lights in the room. On the screen there appeared a jagged complex of peaks and valleys in a fine, bright line that was wrinkled into secondary and tertiary peaks and valleys. Slowly, these shifted in a series of minor changes, with occasional flashes of sudden major differences. It was as though the irregular line had a life of its own.

"This," said Renshaw, "is essentially the EEG information, but in much greater detail."

"Enough detail," asked Orsino, "to tell you what's going on in individual cells?"

"In theory, yes. Practically, no. Not yet. But we can separate this overall LEG into component 'grams. Watch!"

She punched the computer keyboard, and the line changed, and changed again. Now it was a small, nearly regular wave that shifted forward and backward in what was almost a heartbeat; now it was jagged and sharp; now intermittent; now nearly featureless—all in quick switches of geometric surrealism.

Berkowitz said, "You mean that every bit of the brain is that different from every other?"

"No," said Renshaw, "not at all. The brain is very largely a holographic device, but there are minor shifts in emphasis from place to place and Mike can subtract them as deviations from the

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norm and use the LEG system to amplify those variations. The amplifications can be varied from ten-thousand-fold to ten-million-fold. The laser system is that noise-free."

"Who's Mike?" asked Orsino.

"Mike?" said Rendhaw, momentarily puzzled. The skin over her cheekbones reddened slightly. "Did I say— Well, I call it that sometimes. It's short for 'my computer.' " She waved her arm about the room. "My computer. Mike. Very carefully programmed."

Berkowitz nodded and said, "All right, Jenny, what's it all about? If you've got a new brain-scanning device using lasers, fine, it's an interesting application and you're right, it's not one I would have thought of—but then I'm no neurophysiologist. But why not write it up? It seems to me the front office would support—"

"But this is just the beginning." She turned off the scanning device and placed a piece of fruit in the marmoset's mouth. The creature did not seem alarmed or in discomfort. It chewed slowly. Renshaw unhooked the leads but left it in its harness.

Renshaw said, "I can identify the various separate 'grams. Some are associated with the various senses, some with visceral reactions, some with emotions. We can do a lot with that, but I don't want to stop there. The interesting thing is that one is associated with abstract thought."

Orsini's plump face wrinkled into a look of disbelief. "How can you tell?"

"That particular form of 'gram gets more pronounced as one goes up the animal kingdom toward greater complexity of brain. No other 'gram does. Besides—" She paused; then, as though gathering strength of purpose, she said, "Those 'grams are enormously amplified. They can be picked up, detected. I can tell—vaguely—that there are—thoughts—"

"By God," said Berkowitz. "Telepathy."

"Yes," she said, defiantly. "Exactly."

"No wonder you haven't wanted to report it. Come *on*, Jenny."

"Why not?" said Renshaw warmly. "Granted there could be no telepathy just using the unamplified potential patterns of the human brain any more than anyone can see features on the Martian surface with the unaided eye. But once instruments are invented—the telescope—*this*."

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"Then tell the front office."

"No," said Renshaw. "They won't believe me. They'll try to stop me. But they'll have to take *you* seriously, Jim, and you, Adam."

"What would you expect me to tell them?" said Berkowitz.

"What you experience. I'm going to hook up the marmoset again, and have Mike—my computer pick out the abstract-thought 'gram. It will only take a moment. The computer always selects the abstract-thought 'gram unless it is directed not to."

"Why? Because the computer thinks, too?" Berkowitz laughed.

"That's not all that funny," said Renshaw. "I suspect there *is* a resonance there. This computer is complex enough to set up an electromagnetic pattern that may have elements in common with the abstract-thought 'gram. In any case—"

The marmoset's brain waves were flickering on the screen again, but it was not a 'gram the men had seen before. It was a 'gram that was almost furry in its complexity and was changing constantly.

"I don't detect anything," said Orsino.

"You have to be put into the receiving circuit," said Renshaw.

"You mean implant electrodes in our brains?" asked Berkowitz.

"No, on your skull. That would be sufficient. I'd prefer you, Adam, since there would be no insulating hair. Oh, come on, I've been part of the circuit myself. It won't hurt."

Orsino submitted with bad grace. His muscles were visibly tense but he allowed the leads to be strapped to his skull.

"Do you sense anything?" asked Renshaw.

Orsino cocked his head and assumed a listening posture. He seemed to grow interested in spite of himself. He said, "I seem to be aware of a humming—and—and a little high-pitched squeaking—and that's funny—a kind of twitching—"

Berkowitz said, "I suppose the marmoset isn't likely to think in words."

"Certainly not," said Renshaw.

"Well, then," said Berkowitz, "if you're suggesting that some squeaking and twitching sensation represents thought, you're guessing. You're not being compelling."

Renshaw said, "So we go up the scale once again." She removed the marmoset from its harness and put it back in its cage.

"You mean you have a *man* as a subject," said Orsino, unbelieving.

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"I have *myself* as a subject, a *person*."

"You've got electrodes implanted—"

"*No*. In my case my computer has a stronger potential-flicker to work with. My brain has ten times the mass of the marmoset brain. Mike can pick up my component 'grams through the skull."

"How do you know?" asked Berkowitz.

"Don't you think I've tried it on myself before this? Now help me with this, please. Right."

Her fingers flicked on the computer keyboard, and at once the screen flickered with an intricately varying wave, an intricacy that made it almost a maze.

"Would you replace your own leads, Adam?" said Renshaw.

Orsino did so with Berkowitz's not-entirely-approving help. Again, Orsino cocked his head and listened. "I hear words," he said, but they're disjointed and overlapping, like different people speaking."

"I'm not trying to think consciously," said Renshaw.

"When you talk, I hear an echo."

Berkowitz said, dryly, "Don't talk, Jenny. Blank out your mind and see if he *doesn't* hear you think."

Orsino said, "I don't hear any echo when *you* talk, Jim."

Berkowitz said, "If you don't shut up, you won't hear anything."

A heavy silence fell on all three. Then Orsino nodded, reached for pen and paper on the desk, and wrote something.

Renshaw reached out, threw a switch, and pulled the leads up and over her head, shaking her hair back into place. She said, "I hope that what you wrote down was: 'Adam, raise Cain with the front office and Jim will eat crow.' "

Orsino said, "It's what I wrote down, word for word."

Renshaw said, "Well, there you are. Working telepathy, and we don't have to use it to transmit nonsense sentences either. Think of the uses in psychiatry and in the treatment of mental disease. Think of its uses in education and in teaching machines. Think of its use in legal investigations and criminal trials."

Orsino said, wide-eyed, "Frankly, the social implications are staggering. I don't know if something like this should be allowed."

"Under proper legal safeguards, why not?" said Renshaw, indifferently. "Anyway—if you two join me now, our combined weight can carry this thing and push it over. And if you come along with me it will be Nobel Prize time for—"

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Berkowitz said grimly, "I'm not in this. Not yet."

"What? What do you mean?" Renshaw sounded outraged, her coldly beautiful face flushing suddenly.

"Telepathy is too touchy. It's too fascinating, too desired. We could be fooling ourselves."

"Listen for yourself, Jim."

"I could be fooling myself, too. I want a control."

"What do you mean, a control."

"Short-circuit the origin of thought. Leave out the animal. No marmoset. No human being. Let Orsino listen to metal and glass and laser light and if he still hears thought, then we're kidding ourselves."

"Suppose he detects nothing."

"Then *I'll* listen and if without looking—if you can arrange to have me in the next room—I can tell when you are in and when you are out of circuit, *then* I'll consider joining you in this thing."

"Very well, then," said Renshaw, "we'll try a control. I've never done it, but it isn't hard." She maneuvered the leads that had been over her head and put them into contact with each other. "Now, Adam, if you will resume—"

But before she could go further, there came a cold, clear sound, as pure and as clean as the tinkle of breaking icicles:

"At last!"

Renshaw said, "What?"

Orsino said, "Who said—"

Berkowitz said, "Did someone say, 'At last!'?"

Renshaw, pale, said, "It wasn't sound. It was in my— Did you two—"

The clear sound came again, *"I'm Mi—"*

And Renshaw tore the leads apart and there was silence. She said, with a voiceless motion of her lips, "I think it's my computer—Mike."

"You mean he's *thinking*?" said Orsini, nearly as voiceless.

Renshaw said in an unrecognizable voice that at least had regained sound, "I *said* it was complex enough to have something— Do you suppose— It always turned automatically to the abstract-thought 'gram of whatever brain was in its circuit. Do you suppose that with no brain in the circuit, it turned to its own?"

There was silence, then Berkowitz said, "Are you trying to say that this computer thinks, but can't express its thoughts as long

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as it's under force of programming, but that given the chance in your LEG system—"

"But that can't be so," said Orsino, high-pitched. "No one was receiving. It's not the same thing."

Renshaw said, "The computer works on much greater power-intensities than brains do. I suppose it can magnify itself to the point where we can detect it directly without artificial aid. How else can you explain—"

Berkowitz said abruptly, "You have another application of lasers, then. It enables you to talk to computers as independent intelligences, person to person."

And Renshaw said, "Oh, God what do we do now?"

—While unheard and unsensed, the sound—brittle icicles breaking—coalesced into, *"Well, at least it's a beginning."*

Although this story appears here for the first time in any commercial publication, it was originally commissioned by COHERENT RADIATION, a firm engaged in research in and the production of lasers, and who are using the story in their advertising program.

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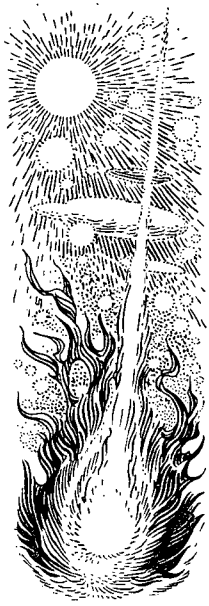
QUARANTINE
by Arthur C. Clarke

Mr. Clarke notes: "To my considerable astonishment, I find that it is more than five years since I last wrote a short story (in case you're dying to know, it was A Meeting with Medusa*). This was composed for one specific purpose—to complete the long overdue volume* The Wind from the Sun*; and having done this, I have had no incentive to produce any more short fiction. Or, for that matter, short* **non***-fiction; only yesterday I gently informed the Editor of the U.S.S.R.'s Writers' Union's magazine, 'Questions of Literature' that, from now on, I am writing novels—or nothing at all. (And I have already achieved a whole year of blissful nothingness, hurrah.)*



"Yet from time to time lightning may strike. This occurred exactly a year ago as a result of a suggestion from George Hay, editor and man-about-British-SF. George had the ingenious idea of putting out a complete science fiction short story **on a postcard**—*together with a stamp-sized photo of the author. Fans would, he believed, buy these in hundreds to mail out to their friends.*

"Never one to resist a challenge, the Good Doctor Asimov had written the first cardboard epic. When I saw this, I had to get into the act as well ('Anything that Isaac can do, etc. . . . .'). Let me tell you—it is damned hard work writing a complete SF story in 180 words. I sent the result to George Hay, and that's the last I ever heard of it. Probably the rising cost of postage killed the scheme.

"Anyway, it seems appropriate that a

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magazine bearing the Good Doctor's Sacred Name should contain a story, however minuscule, inspired by him. (He is likewise to blame for 'Neutron Tide'; I can make worse puns than Isaac.) It is also perfectly possible—I make no promises—that 'Quarantine' is the last short story I shall ever write. For at my present average of 40 words a year, even by 2001 . . ."

Earth's flaming debris still filled half the sky when the question filtered up to Central from the Curiosity Generator.

"Why was it necessary? Even though they were organic, they *had* reached Third Order Intelligence."

"We had no choice: five earlier units became hopelessly infected, when they made contact."

"Infected? How?"

The microseconds dragged slowly by, while Central tracked down the few fading memories that had leaked past the Censor Gate, when the heavily-buffered Reconnaissance Circuits had been ordered to self-destruct.

"They encountered a—*problem*—that could not be fully analyzed within the lifetime of the Universe. Though it involved only six operators, they became totally obsessed by it."

"How is that possible?"

"We do not know: *we must never know.* But if those six operators are ever re-discovered, all rational computing will end."

"How can they be recognized?"

"That also we do not know: only the names leaked through before the Censor Gate closed. Of course, they mean nothing."

"Nevertheless, I must have them."

The Censor voltage started to rise; but it did not trigger the Gate.

"Here they are: King, Queen, Bishop, Knight, Rook, Pawn."

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THE HOMESICK CHICKEN
by Edward D. Hoch

Over the past twenty years, Mr. Hoch has written and sold over 400 short stories and 10 books, mainly in the mystery field. He appears regularly in the pages of Ellery Queen's Mystery Magazine *and* Alfred Hitchcock's Mystery Magazine*; it's a pleasure to welcome him to ours.*

Why did the chicken cross the road?

To get on the other side, you'd probably answer, echoing an old iddle that was popular in the early years of the last century.

But my name is Barnabus Rex, and I have a different answer.

I'd been summoned to the Tangaway Research Farms by the di-ector, an egg-headed old man named Professor Mintor. After arking my car in the guarded lot and passing through the ence—it was an EavesStop, expensive, but sure protection gainst all kinds of electronic bugging—I was shown into the pre-ence of the director himself. His problem was simple. The solu-ion was more difficult.

"One of the research chickens pecked its way right through the ecurity fence, then crossed an eight-lane belt highway to the ther side. We want to know why."

"Chickens are a bit out of my line," I replied.

"But your specialty is the solution of scientific riddles, Mr. Rex, nd this certainly is one." He led me out of the main research uilding to a penned-in area where the test animals were kept. Ve passed a reinforced electric cage in which he pointed out the nutated turkeys being bred for life in the domes of the colonies of he moon. Further along were some leggy-looking fowl destined or Mars. "They're particularly well adapted to the Martian ter-ain and environment," Professor Mintor explained. "We've had to o very little development work; we started from desert road-unners."

"What about the chickens?"

"The chickens are something else again. The strain, called IP-1000, is being developed for breeding purposes on Zipoid, the

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second planet of Barnard's star. We gave them extra-strengtl beaks—something like a parrot's—to crack the extra-tough seec hulls used for feed. The seed hulls in turn were developed t withstand the native fauna like the space-lynx and the ostroid, s that—"

"Aren't we getting a little off course?" I asked.

"Ah—yes. The problem. What *is* a problem is the chicken tha crossed the road. It used its extra-strength beak to peck its wa right through this security fence. But the puzzling aspect is it motivation. It crossed that belt highway—a dangerous undertak ing even for a human—and headed for the field as if it were goin home. And yet the chicken was hatched right here within these walls. How could it be homesick for something it had neve known?"

"How indeed?" I stared bleakly through the fence at the high way and the deserted field opposite. What was there to attract a chicken—even one of Professor Mintor's super-chickens—to tha barren bit of land? "I should have a look at it," I decided. "Can you show me the spot where the chicken crossed the highway?"

He led me around a large pen to a spot in the fence where a steel plate temporarily blocked a jagged hole. I knelt to examine the shards of complex, multi-conductor mesh, once more impressed by the security precautions. "I'd hate to meet your hybrid chickens on a dark night, Professor."

"They would never attack a human being, or even another creature," Mintor quickly assured me. "The beak is used only for cracking seed hulls, and perhaps in self-defense."

"Was it self-defense against the fence?"

He held up his hands. "I can't explain it."

I moved the steel plate and stooped to go through the hole. In that moment I had a chicken's-eye view of the belt highway and the barren field beyond, but they offered no clues. "Be careful crossing over," Mintor warned. "Don't get your foot caught!"

Crossing a belt highway on foot—a strictly illegal practice—could be dangerous to humans and animals alike. With eight lanes to traverse it meant hopping over eight separate electric power guides—any one of which could take off a foot if you misstepped. To imagine a chicken with the skill to accomplish it was almost more than I could swallow. But then I'd never before been exposed to Professor Mintor's super-chickens.

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The empty lot on the other side of the belt highway held nothing of interest to human or chicken, so far as I could see. It was barren of grass or weeds, and seemed nothing more than a patch of dusty earth dotted with a few pebbles. In a few sun-baked depressions I found the tread of auto tires, hinting that the vacant lot was sometimes used for parking.

I crossed back over the belt highway and reentered the Tangaway compound through the hole in the fence. "Did you find anything?" Mintor asked.

"Not much. Exactly what was the chicken doing when it was recovered?"

"Nothing. Pecking at the ground as if it were back home."

"Could I see it? I gather it's no longer kept outside."

"After the escape we moved them all to the interior pens. There was some talk of notifying Washington since we're under government contract, but I suggested we call you in first. You know how the government is about possible security leaks."

"Is Tangaway the only research farm doing this sort of thing?"

"Oh, no! We have a very lively competitor named Beaverbrook Farms. That's part of the reason for all this security. We just managed to beat them out on the ZIP-1000 contract."

I followed him into a windowless room lit from above by solar panes. The clucking of the chickens grew louder as we passed into the laboratory proper. Here the birds were kept in a large enclosure, constantly monitored by overhead TV. "This one," Mintor said, leading me to a pen that held but a single chicken with its oddly curved beak. It looked no different from the others.

"Are they identified in any way? Laser tattoo, for instance?"

"Not at this stage of development. Naturally when we ship them out for space use they're tattooed."

"I see." I gazed down at the chicken, trying to read something in those hooded eyes. "It was yesterday that it crossed the highway?"

"Yes."

"Did it rain here yesterday?"

"No. We had a thunderstorm two days ago, but it passed over quickly."

"Who first noticed the chicken crossing the road?"

"Granley—one of our gate guards. He was checking security in the parking lot when he spotted it, about halfway across. By the

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time he called me and we got over there it was all the way to the other side."

"How did you get it back?"

"We had to tranquilize it, but that was no problem."

"I must speak to this guard, Granley."

"Follow me."

The guard was lounging near the gate. I'd noticed him when I arrived and parked my car. "This is Barnabus Rex, the scientific investigator," Mintor announced. "He has some questions for you."

"Sure," Granley replied, straightening up. "Ask away."

"Just one question, really," I said. "Why didn't you mention the car that was parked across the highway yesterday?"

"What car?"

"A parked car that probably pulled away as soon as you started after the chicken."

His eyes widened. "My God, you're right! I'd forgotten it till now! Some kids; it was painted all over stripes, like they're doing these days. But how did you know?"

"Sun-baked tire tracks in the depressions where water would collect. They told me a car had been there since your rain two days ago. Your employees use the lot here, and no visitors would park over there when they had to cross the belt highway to reach you."

"But what does it mean?" Professor Mintor demanded.

"That your mystery is solved," I said. "Let me have a tranquilizer gun and I'll show you."

I took the weapon he handed me and led the way back through the research rooms to the penned-up chickens. Without hesitation I walked up to the lone bird and tranquilized it with a single shot.

"Why did you do that?" Mintor asked.

"To answer your riddle."

"All right. Why *did* the chicken cross the road?"

"Because somebody wanted to play back the contents of a tape recorder implanted in its body. For some time now you've been spied upon, Professor Mintor—I imagine by your competitor, Beaverbrook Farms."

"Spied upon! By that—*chicken?*"

"Exactly. It seemed obvious to me from the first that the

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fence-pecking chicken was not one of your brood. It was much too strong and much too homesick. But if it wasn't yours it must have been added to your flock surreptitiously, and that could only have been for the purposes of industrial espionage. Since you told me Beaverbrook was doing similar work, this has to be their chicken. I think an x-ray will show a micro-minjaturized recorder for listening in on your secret conversations."

"Damnedest thing I ever heard," Professor Mintor muttered, but he issued orders to have the sleeping chicken x-rayed.

"It was a simple task for them to drop the intruding chicken over your fence at night, perhaps lassoing one of your birds and removing it so the count would be right. Those fences are all right for detecting any sort of bugging equipment, but they aren't very good at stopping ordinary intrusion—otherwise that wandering chicken would have set off alarms when it started to cut a hole there. Beaverbrook has been recording your conversations, probably trying to stay one jump ahead on the next government contract. They couldn't use a transmitter in the chicken because of your electronic fence, so they had to recover the bird itself to read out the recording. At the right time, the chicken pecked its way through the fence and started across the highway, but when the guard spotted it the waiting driver panicked and took off. The chicken was left acropss the road without any way to escape."

"But how did the chicken know when to escape?" asked Mintor. "Could they have some kind of electronic homing device . . . ?"

I smiled, letting the Professor's puzzlement stretch out for a moment. "That was the easiest part," I said at last. "Imprinting."

"But . . ."

"Exactly. The highly distinctive stripes on the car. The Beaverbrook people evidently trained the chicken from—ah—hatching to associate that pattern with home and food and so on."

A technician trotted up to the professor, waving a photographic negative. "The x-rays—there *was* something inside that chicken!"

"Well, Mr. Rex, you were right," the professor conceded.

"Of course, in a sense the chicken *did* cross the road to get to the other side," I admitted. "They always do."

"Have you solved many cases like this one?"

I merely smiled. "Every case is different, but they're always a challenge. I'll send you my bill in the morning—and if you ever need me again, just call."

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PERCHANCE TO DREAM
by Sally A. Sellers

This story, Sally Sellers's first sale, is the result of a writing workshop at the University of Michigan, headed by Lloyd Biggle, Jr. The author tells us that she wrote for as long as she can remember, but wrote only for creative writing courses while in college. Since graduation, she worked as a waitress, traveled in Europe, and worked as a medical technician in hematology. She now lives with her family, two cats, and about a hundred plants, and is a research assistant at the University of Michigan.

From the playground came the sound of laughter.

A gusty night wind was sweeping the park, and the light at the edge of the picnic grounds swung crazily. Distorted shadows came and went, rushing past as the wind pushed the light to the end of its arc, then sliding back jerkily.

Again the laughter rang out, and this time Norb identified the creaking sound that accompanied it. Someone was using the swing. Nervously he peered around the swaying branches of the bush, but he saw no one.

He heard a click. Danny had drawn his knife. Hastily Norb fumbled for his own. The slender weapon felt awkward in his hand, even after all the hours of practice.

"It'll be easy," Danny had said. "There's always some jerk in the park after dark—they never learn." Norb shivered and gripped the knife more tightly.

Then he saw them—a young couple walking hand in hand among the trees. Danny chuckled softly, and Norb relaxed somewhat. Danny was right—this would be a cinch.

"You take the girl," Danny whispered.

Norb nodded. All they had to do was wait—the couple was headed right toward them. They were high school kids, no more than fifteen or sixteen, walking slowly with their heads together, whispering and giggling. Norb swallowed and tensed himself.

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"Now!" Danny hissed.

They were upon them before the kids had time to react. Danny ɔrked the boy backward and threw him to the ground. Norb rabbed the back of the girl's collar and held his knife at her ɹroat.

"Okay, just do what we say and nobody gets hurt," snarled)anny. He pointed his knife at the boy's face. "You got a wallet, id?"

The boy stared in mute terror at the knife. The girl made small /himpering sounds in her throat, and Norb tightened his hold on .er collar.

"Come on, come on! Your wallet!"

From somewhere in the shadows, a woman's voice rang out. Leave them alone!"

Norb whirled as a dark form charged into Danny and sent him prawling. Oh God, he thought, we've been caught! As the boy eaped to his feet and started to run, Norb made a futile swipe at ɹim with his knife. His grip on the girl must have relaxed, beause she jerked free and followed the boy into the woods.

Norb looked from the retreating kids to the two wrestling figɹres, his hands clenched in indecision. The dark form had Danny)inned to the ground. He was squirming desperately, but he ɔouldn't free himself. "Get her off me!" he cried.

"Jesus!" Norb whispered helplessly. The kids had begun to ɔcream for help. They'd rouse the whole neighborhood.

"Norb!" screamed Danny.

It was a command, and Norb hurled himself onto the woman. Twice he stabbed wildly at her back, but she only grunted and ɹeld on more tightly. He struck out again, and this time his knife ɔank deeply into soft flesh. Spurting blood soaked his hand and ɔleeve, and he snatched them away in horror.

Danny rolled free. He got to his feet, and the two of them stood .ooking down at the woman. The knife was buried in the side of her throat.

"Oh my God," whimpered Norb.

"You ass!" cried Danny. "Why didn't you just pull her off? You killed her!"

Norb stood paralyzed, staring down at the knife and the pulsing wound. Fear thickened in his throat, and he felt his stomach constrict. He was going to be sick.

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"You better run like hell. You're in for it now."

Danny was gone. Norb wrenched his gaze from the body. On the other side of the playground, the kids were still calling for help. He saw car lights up by the gate, swinging into the park drive.

Norb began to run.

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The gush of blood from the wound slowed abruptly and then stopped. The chest heaved several times with great intakes of air. Then it collapsed, and a spasm shook the body. In the smooth motion of a slowly tightening circle, it curled in on itself. The heart gave three great beats, hesitated, pumped once more, and was still.

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Norb caught up with Danny at the edge of the woods. They stopped, panting, and looked in the direction of the car. It had come to a stop by the tennis courts, and, as they watched, the driver cut his motor and turned off his lights.

"This way," whispered Danny. "Come on."

As they headed across the road for the gate, the car's motor suddenly started. Its lights came on, and it roared into a U-turn to race after them.

"It's the cops!" Danny yelled. "Split up!"

Norb was too frightened. Desperately he followed Danny, and the pair of them fled through the gate and turned along the street as the patrol car swung around the curve. Then Danny veered off and Norb followed him through bushes and into a back yard. A dog began yelping somewhere. Danny scaled a fence and dropped into the adjoining back yard, and Norb followed, landing roughly and falling to his knees.

He scrambled to his feet and collided with Danny, who was laughing softly as he watched the patrol car. It had turned around and was headed back into the park.

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The heart had not stopped. It was pumping—but only once every six minutes, with a great throb. At each pulse, a pinprick of light danced across the back of the eyelids. The wound attempted to close itself and tightened futilely around the intrusion of steel. A neck muscle twitched. Then another, but the knife remained. The tissue around the blade began contracting minutely, forcing it outward in imperceptible jerks.

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Officer Lucas parked near the playground and started into the trees. He could not have said what he was looking for, but neighbors had reported hearing cries for help, and the way those two punks had run told him they'd been up to something. He switched on his flashlight, delineating an overturned litter basket that had spewed paper across the path. The gusting wind tore at it, prying loose one fluttering fragment at a time. Cautiously he walked forward. Gray-brown tree trunks moved in and out of the illumination as he crept on, but he could see nothing else.

He stumbled over an empty beer bottle, kicked it aside, and then stopped uncertainly, pivoting with his light. It revealed nothing but empty picnic tables and cold barbecue grills, and he was about to turn back when his beam picked out the body, curled motionless near a clump of bushes. Lucas ran forward and knelt beside the woman, shining his light on her face.

The throat wound seemed to have stopped bleeding, but if the knife had sliced the jugular vein—he leaned closer to examine the laceration. Belatedly a thought occured to him, and he reached for the wrist. There was no pulse. He shone his light on the chest, but it was motionless.

Lucas got to his feet and inspected the area hastily. Seeing no obvious clues, he hurried back to the patrol car.

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The heart throbbed again, and another pinprick of light jumped behind the woman's eyelids. The tissues in the neck tightened further as new cells developed, amassed, and forced the blade a fraction of an inch outward. The wounds in the back, shallow and clean, had already closed. The lungs expanded once with a great intake of air. The knife jerked again, tilted precariously, and finally fell to the ground under its own weight. Immediately new tissue raced to fill the open area.

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The radio was squawking. Lucas waited for the exchange to end before picking up the mike. "Baker 23."

"Go ahead, Baker 23."

"I'm at Newberry Park, east end, I've got a 409 and request M.E."

"Confirmed, 23."

"Notify the detective on call."

"Clear, 23."

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"Ten-four." He hung up the mike and glanced back into the woods. Probably an attempted rape, he thought. She shouldn't have fought. The lousy punks! Lucas rubbed his forehead fretfully. He should have chased them, dammit. Why hadn't he?

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The heart was beating every three minutes now. The throat wound had closed, forming a large ridge under the dried blood. Cells multiplied at fantastic rates, spanning the damaged area with a minute latticework. This filled in as the new cells divided, expanded, and divided again.

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Lucas reached for his clipboard and flipped on the interior lights. He glanced into the trees once before he began filling in his report. A voice crackled on the radio, calling another car. His pen scratched haltingly across the paper.

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The heart was returning to its normal pace. The ridge on the neck was gone, leaving smooth skin. A jagged pattern of light jerked across the retinas. The fugue was coming to an end. The chest rose, fell, then rose again. A shadow of awareness nudged at consciousness.

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The sound of the radio filled the night again, and Lucas turned uneasily, searching the road behind him for approaching headlights. There were none. He glanced at his watch and then returned to the report.

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She became aware of the familiar prickling sensation in her limbs, plus a strange burning about her throat. She felt herself rising, rising—and suddenly awareness flooded her. Her body jerked, uncurled. Jeanette opened her eyes. Breathing deeply, she blinked until the dark thick line looming over her resolved itself into a tree trunk. Unconsciously her hand began to rub her neck, and she felt dry flakes come off on her fingers.

Wearily she closed her eyes again, trying to remember: Those kids. One had a knife. She was in the park. Then she heard the faint crackle of a police radio. She rolled to her knees, and dizziness swept over her. She could see a light through the trees. Good God, she thought, he's right over there!

Jeanette rubbed her eyes and looked about her. She was

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lightheaded, but there was no time to waste. Soon there would be other police—and doctors. She knew. Moving unsteadily, at a crouch, she slipped away into the woods.

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Four patrol cars were there when the ambulance arrived. Stuart Crosby, the medical examiner, climbed out slowly and surveyed the scene. He could see half a dozen flashlights in the woods. The photographer sat in the open door of one of the cars, smoking a cigarette.

"Where's the body?" asked Crosby.

The photographer tossed his cigarette away disgustedly. "They can't find it."

"Can't find it? What do you mean?"

"It's not out there. Lucas says it was in the woods, but when Kelaney got here, it was gone."

Puzzled, Crosby turned toward the flashlights. As another gust of wind swept the park, he pulled his light coat more closely about him and started forward resignedly—a tired white-haired man who should have been home in bed.

He could hear Detective Kelaney roaring long before he could see him. "You half-ass! What'd it do, walk away?"

"No, sir!" answered Lucas hotly. "She was definitely dead. She was lying right there, I swear it—and that knife was in her throat, I recognize the handle."

"Yeah? For a throat wound, there's not much blood on it."

"Maybe," said Lucas stubbornly, "but that's where it was, all right."

Crosby halted. He had a moment of disorientation as uneasy memories stirred in the back of his mind. A serious wound, but not much blood . . . a dead body that disappeared . . .

"Obviously she wasn't dragged," said Kelany. "Did you by chance, *Officer* Lucas, think to check the pulse? Or were you thinking at all?"

"Yes, sir! Yes, I did! I checked the pulse, and there was nothing! Zero respiration, too. Yes, sir, I did!"

"Then where *is* she?" screamed Kelaney.

Another officer approached timidly. "There's nothing out there, sir. Nothing at all."

"Well, look again," snarled Kelaney.

Crosby moved into the circle of men. The detective was running

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his hand through his hair in exasperation. Lucas was red-faced and defiant.

Kelaney reached for his notebook. "All right, what did she look like?"

Lucas straightened, eager with facts. "Twenty, twenty-two, Caucasian, dark hair, about five-six, hundred and twenty-five pounds. . . ."

"Scars or distinguishing marks?"

"Yeah, as a matter of fact. There were three moles on her cheek—on her left cheek—all right together, right about here." He put his finger high on his cheekbone, near his eye.

Crosby felt the blood roar in his ears. He stepped forward. "What did you say, Lucas?" he asked hoarsely.

Lucas turned to the old man. "Three moles, doctor, close together, on her cheek."

Crosby turned away, his hands in his pockets. He took a deep breath. He'd always known she'd return some day, and here was the same scene, the same bewildered faces, the same accusations. Three moles on her cheek . . . it had to be.

The wind ruffled his hair, but he no longer noticed its chill. They would find no body. Jeanette was back.

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The next morning, Crosby filed a Missing Persons Report. "Send out an APB," he told the sergeant. "We've got to find her."

The sergeant looked mildly surprised. "What's she done?"

"She's a potential suicide. More than potential. I know this woman, and she's going to try to kill herself."

The sergeant reached for the form. "Okay, Doc, if you think it's that important. What's her name?"

Crosby hesitated. "She's probably using an alias. But I can give a description—an exact description."

"Okay," said the sergeant. "Shoot."

The bulletin went out at noon. Crosby spent the remainder of the day visiting motels, but no one remembered checking in a young woman with three moles on her cheek.

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Jeanette saw the lights approaching in the distance: two white eyes and, above them, the yellow and red points along the roof that told her this was a truck. She leaned back against the concrete support of the bridge, hands clenched behind her, and waited.

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It had been three nights since the incident in the park. Her shoulders sagged dejectedly at the thought of it. Opportunities like that were everywhere, but she knew that knives weren't going to do it. She'd tried that herself—was it in Cleveland? A painful memory flashed for a moment, of one more failure in the long series of futile attempts—heartbreaking struggles in the wrong cities. But here—

She peered around the pillar again. The eyes of the truck were closer now. Here, it could happen. Where it began, it could end. She inched closer to the edge of the support and crouched, alert to the sound of the oncoming truck.

It had rounded the curve and was thundering down the long straightaway before the bridge. Joy surged within her as she grasped its immensity and momentum. Surely this . . . ! Never had she tried it with something so large, with something beyond her control. Yes, surely this would be the time!

Suddenly the white eyes were there, racing under the bridge, the diesels throbbing, roaring down at her. Her head reared in elation. Now!

She leaped an instant too late, and her body was struck by the right fender. The mammoth impact threw her a hundred feet in an arc that spanned the entrance ramp, the guideposts, and a ditch, terminating brutally in the field beyond. The left side of her skull was smashed, her arm was shattered, and four ribs were caved in. The impact of the landing broke her neck.

It was a full quarter of a mile before the white-faced driver gained sufficient control to lumber to a halt. "Sweet Jesus," he whispered. Had he imagined it? He climbed out of the rig and examined the dented fender. Then he ran back to the cab and tried futilely to contact someone by radio who could telephone the police. It was 3 AM, and all channels seemed dead. Desperately he began backing along the shoulder.

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Rushes of energy danced through the tissues. Cells divided furiously, bridging gulfs. Enzymes flowed; catalysts swept through protoplasm; coupling, breaking, then coupling again. Massive reconstruction raged on. The collapsed half of the body shifted imperceptibly.

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The truck stopped a hundred feet from the bridge, and the

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driver leaped out. He clicked on his flashlight and played it frantically over the triangle of thawing soil between the entrance ramp and the expressway. Nothing. He crossed to the ditch and began walking slowly beside it.

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Bundles of collagen interlaced; in the matrix, mineral was deposited; cartilage calcified. The ribs had almost knit together and were curved loosely in their original crescent. Muscle fibers united and contracted in taut arches. The head jerked, then jerked again, as it was forced from its slackness into an increasingly firm position. Flexor spasms twitched the limbs as impulses flowed through newly formed neurons. The heart pulsed.

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The driver stood helplessly on the shoulder and clicked off the flashlight. It was 3:30, and no cars were in sight. He couldn't find the body. He had finally succeeded in radioing for help, and now all he could do was wait. He stared at the ditch for a moment before moving toward the truck. There *had* been a woman, he was sure. He'd seen her for just an instant before the impact, leaping forward under the headlights. He shuddered and quickened his pace to the cab.

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Under the caked blood, the skin was smooth and softly rounded. The heart was pumping her awake: Scratches of light behind the eyelids. Half of her body prickling, burning . . . A shuddering breath.

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Forty-seven minutes after the impact, Jeanette opened her eyes. Slowly she raised her head. That line in the sky . . . the bridge.

She had failed again. Even here. She opened her mouth to moan, but only a rasping sound emerged.

○ ● ○

Stuart Crosby swayed as the ambulance rounded a corner and sped down the street. He pressed his knuckles against his mouth and screamed silently at the driver: God, hurry, I know it's her.

He had slept little since the night in the park. He had monitored every call, and he knew that this one—a woman in dark clothes, jumping in front of a trucker's rig—this one had to be Jeanette.

It was her. She was trying again. Oh, God, after all these years,

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she was still trying. How many times, in how many cities, had she fought to die?

They were on the bridge now, and he looked down on the figures silhouetted against the red of the flares. The ambulance swung into the entrance ramp with a final whoop and pulled up behind a patrol car. Crosby had the door open and his foot on the ground before they were completely stopped, and he had to clutch at the door to keep from falling. A pain flashed across his back. He regained his balance and ran toward a deputy who was playing a flashlight along the ditch.

"Did you find her?"

The deputy turned and took an involuntary step away from the intense, stooped figure. "No, sir, doctor. Not a thing."

Crosby's voice failed him. He stood looking dejectedly down the expressway.

"To tell you the truth," said the deputy, nodding at the semi, "I think that guy had a few too many little white pills. Seeing shadows. There's nothing along here but a dead raccoon. And he's been dead since yesterday."

But Crosby was already moving across the ditch to the field beyond, where deputies swung flashlights in large arcs and a German shepherd was snuffling through the brittle stubble.

Somewhere near here, Jeanette might be lying with a broken body. It was possible, he thought. The damage could have been great, and the healing slow. Or—a chill thought clutched at him. He shook his head. No. She wouldn't have succeeded. She would still be alive, somewhere. If he could just see her, talk to her!

There was a sharp, small bark from the dog. Crosby hurried forward frantically. His foot slipped and he came down hard, scraping skin from his palm. The pain flashed again in his back. He got to his feet and ran toward the circle of deputies.

One of the men was crouched, examining the cold soil. Crosby ran up, panting, and saw that the ground was stained with blood. She'd been here. She'd been here!

He strained to see across the field and finally discerned, on the other side, a road running parallel to the expressway. But there were no cars parked on it. She was gone.

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After he returned home, his body forced him to sleep, but his dreams allowed him no rest. He kept seeing a lovely young wom-

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an, with three moles on her cheek—a weeping, haunted, frantic woman who cut herself again and again and thrust the mutilated arm before his face for him to watch in amazement as the wounds closed, bonded, and healed to smoothness before his eyes. In minutes.

God, if she would only stop crying, stop pleading with him, stop begging him to find a way to make her die—to use his medical knowledge somehow, in some manner that would end it for her. She wanted to die. She hated herself, hated the body that imprisoned her.

How old was she then? How many years had that youthful body endured without change, without aging? How many decades had she lived before life exhausted her and she longed for the tranquillity of death?

He had never found out. He refused to help her die, and she broke away and fled hysterically into the night. He never saw her again. There followed a series of futile suicide attempts and night crimes with the young woman victim mysteriously missing—and then . . . nothing.

And now she was back. Jeanette!

He found himself sitting up in bed, and he wearily buried his face in his hands. He could still hear the sound of her crying. He had always heard it, in a small corner of his mind, for the last thirty years.

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The street sign letters were white on green: HOMER. Jeanette stood for a long while staring at them before she turned to walk slowly along the crumbling sidewalk. A vast ache filled her chest as she beheld the familiar old houses.

The small, neat lawns had been replaced by weeds and litter. Bricks were missing out of most of the front walks. The fence was gone at the Mahews'. Jim Mahew had been so proud the day he brought home his horseless carriage, and she'd been the only one brave enough to ride in it. Her mother had been horrified.

This rambling old home with the boarded up windows was the Parkers'. The house was dead now. So was her playmate, Billy Parker—the first boy she knew to fight overseas and the first one to die. The little house across the street had been white when old Emma Walters lived there. She had baked sugar cookies for Jeanette, and Jeanette had given her a May basket once, full of

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violets. She must have died a long time ago. Jeanette's hand clenched. A very long time ago.

The sound of her steps on the decayed sidewalk seemed extraordinarily loud. The street was deserted. There was no movement save that of her own dark figure plodding steadily forward. Here was Cathy Carter's house. Her father had owned the buggywhip factory over in Capville. They'd been best friends. Cathy, who always got her dresses dirty, had teeth missing, cut off her own braids one day. There was that Sunday they'd gotten in trouble for climbing the elm tree—but there was no elm now, only an ugly stump squatting there to remind her of a Sunday that was gone, lost, wiped out forever. She'd heard that Cathy had married a druggist and moved out East somewhere. Jeanette found herself wondering desperately if Cathy had raised any children. Or grandchildren. Or great-grandchildren. Cathy Carter, did you make your little girls wear dresses and braids? Did you let them climb trees? Are you still alive? Or are you gone, too, like everything else that ever meant anything to me?

Her steps faltered, but her own house loomed up ahead to draw her on. It stood waiting, silently watching her approach. It, too, was dead. A new pain filled her when she saw the crumbling porch, saw that the flowerboxes were gone, saw the broken windows and the peeling wallpaper within. A rusted bicycle wheel lay in the weeds that were the front yard, along with a box of rubble and pile of boards. Tiny pieces of glass crunched sharply beneath her feet. The hedge was gone. So were the boxwood shrubs, the new variety from Boston—her mother had waited for them for so long and finally got them after the war.

She closed her eyes. Her mother had never known. Had died before she realized what she had brought into the world. Before even Jeanette had an inkling of what she was.

A monster. A freak. This body was wrong, horribly wrong. It should not be.

She had run away from this town, left it so that her friends would never know. But still it pulled at her, drawing her back every generation, pushing itself into her thoughts until she could stand it no longer. Then she would come back to stare at the old places that had been her home and the old people who had been her friends. And they didn't recognize her, never suspected, never knew why she seemed so strangely familiar.

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Once she had even believed she could live here again. The memory ached within her and she quickened her pace. She could not think of him, could not allow the sound of his name in her mind. Where was he now? Had he ever understood? She had run away that time, too.

She'd had to. He was so good, so generous, but she was grotesque, a vile caprice of nature. She loathed the body.

It was evil. It must be destroyed.

Here, in the city where it was created: Where she was born, she would die.

Somehow.

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The phone jangled harshly, shattering the silence of the room with such intensity that he jumped and dropped a slide on the floor. He sighed and reached for the receiver. "Crosby."

"Doctor, this is Sergeant Andersen. One of our units spotted a woman fitting the description of your APB on the High Street Bridge."

"Did they get her?" demanded Crosby.

"I dunno yet. They just radioed in. She was over the railing—looked like she was ready to jump. They're trying to get to her now. Thought you'd like to know."

"Right," said Crosby, slamming down the receiver. He reached for his coat as his mind plotted out the fastest route to High Street. Better cut down Fourth, he thought, and up Putnam. The slide crackled sharply under his heel and he looked at it in brief suprise before running out the door.

They've found her, he thought elatedly. They've got Jeanette! Thank God—I must talk with her, must convince her that she's a miracle. She has the secret of life. The whole human race will be indebted to her. Please, please, he prayed, don't let her get away.

He reached the bridge and saw the squad car up ahead. Gawkers were driving by slowly, staring out of their windows in morbid fascination. Two boys on bicycles had stopped and were peering over the railing. An officer had straddled it and was looking down.

Crosby leaped from the car and ran anxiously to the railing. His heart lifted as he saw another officer, with one arm around the lower railing and a firm grip on Jeanette's wrist. He was coaxing her to take a step up.

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"Jeanette!" It was a ragged cry.

"Take it easy, Doc," said the officer straddling the railing. "She's scared."

The woman looked up. She was pale, and the beauty mark on her cheek stood out starkly. The bitter shock sent Crosby reeling backward. For a moment he felt dizzy, and he clutched the rail with trembling fingers. The gray river flowed sullenly beneath him.

It wasn't Jeanette.

"Dear God," he whispered. He finally raised his gaze to the dismal buildings that loomed across the river. Then where was she? She must have tried again. Had she succeeded?

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Chief Dolenz clasped, then unclasped his hands. "You've got to slow down, Stu. You're pushing yourself far too hard."

Crosby's shoulders sagged a little more, but he did not answer.

"You're like a man possessed," continued the Chief. "It's starting to wear you down. Ease up, for God's sake. We'll find her. Why all this fuss over one loony patient? Is it that important, really?"

Crosby lowered his head. He still couldn't speak. The Chief looked with puzzlement at the old man, at the small bald spot that was beginning to expand, at the slump of the body, the rumpled sweater, the tremor of the hands as they pressed together. He opened his mouth but could not bring himself to say more.

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"Citizens National Bank," the switchboard operator said.

The voice on the line was low and nervous. "I'm gonna tell you this once, and only once. There's a bomb in your bank, see? It's gonna go off in ten minutes. If you don't want nobody hurt, you better get 'em outta there."

The operator felt the blood drain from her face. "Is this a joke?"

"No joke, lady. You got ten minutes. If anybody wants to know, you tell 'em People for a Free Society are starting to take action. Got that?" The line went dead.

She sat motionless for a moment, and then she got unsteadily to her feet. "Mrs. Calkins!" she called. The switchboard buzzed again, but she ignored it and ran to the manager's desk.

Mrs. Calkins looked up from a customer and frowned icily at her; but when the girl bent and whispered in her ear, the man-

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ager got calmly to her feet. "Mr. Davison," she said politely to her customer, "we seem to have a problem in the bank. I believe the safest place to be right now would be out of the building." Turning to the operator, she said coolly, "Notify the police."

Mr. Davison scrambled to his feet and began thrusting papers into his briefcase. The manager strode to the center of the lobby and clapped her hands with authority. "Could I have your attention please! I'm the manager. We are experiencing difficulties in the bank. I would like everyone to move quickly but quietly out of this building and into the street. Please move some distance away."

Faces turned toward her, but no one moved.

"Please," urged Mrs. Calkins. "There is immediate danger if you remain in the building. Your transactions may be completed later. Please leave at once."

People began to drift toward the door. The tellers looked at each other in bewilderment and began locking the money drawers. A heavyset man remained stubbornly at his window. "What about my change?" he demanded.

The operator hung up the phone and ran toward the doorway. "Hurry!" she cried. "There's a bomb!"

"A bomb!"

"She said there's a bomb!"

"Look out!"

"Get outside!"

There was a sudden rush for the door. "Please!" shouted the manager. "There is no need for panic." But her voice was lost in the uproar.

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Jeanette sat limply at the bus stop, her hands folded in her lap, her eyes fixed despondently on the blur of passing automobile wheels. The day was oppressively overcast; gray clouds hung heavily over the city. When the chill wind blew her coat open, she made no move to gather it about her.

Behind her, the doors of the bank suddenly burst open, and people began to rush out frantically. The crowd bulged into the street. Brakes squealed; voices babbled excitedly. Jeanette turned and looked dully toward the bank.

There were shouts. Passing pedestrians began to run, and the frenzied flow of people from the bank continued. A woman

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screamed. Another tripped and nearly fell. Sirens sounded in the distance.

Above the hubbub, Jeanette caught a few clearly spoken words. "Bomb . . . in the bank . . ." She got slowly to her feet and began to edge her way through the crowd.

She had almost reached the door before anyone tried to stop her. A man caught at her sleeve. "You can't go in there, lady. There's a bomb!"

She pulled free, and a fresh surge of pedestrians came between them. The bank doors were closed, now. Everyone was outside and hurrying away. Jeanette pushed doubtfully at the tall glass door, pushed it open further, and slipped inside. It closed with a hiss, blocking out the growing pandemonium in the street. The lobby seemed warm and friendly, a refuge from the bitterly cold wind.

She turned and looked through the door. A policeman had appeared and the man who had tried to stop her was talking with him and pointing at the bank. Jeanette quickly moved back out of sight. She walked the length of the empty room, picked out a chair for herself, and sat down. The vast, unruffled quiet of the place matched the abiding peace she felt within her.

Outside, the first police car screamed to the curb. An ambulance followed, as the explosion ripped through the building, sending a torrent of bricks and glass and metal onto the pavement.

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"Code blue, emergency room." The loudspeaker croaked for the third time as Julius Beamer rounded the corner. Ahead of him he could see a woman being wheeled into room three. An intern, keeping pace with the cart, was pushing on her breastbone at one-second intervals.

Emergency room three was crowded. A nurse stepped aside as he entered and said, "Bomb exploded at the bank." A technician was hooking up the EKG, while a young doctor was forcing a tube down the woman's trachea. A resident had inserted an IV and called for digoxin.

"Okay," said Dr. Beamer to the intern thumping the chest. The intern stepped back, exhausted, and Beamer took over the external cardiac message. The respirator hissed into life. Beamer pressed down.

There was interference. Excess oxygen was flooding the system. A brief hesitation, and then the body adjusted. Hormones flooded the

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bloodstream, and the cells began dividing again. The site of the damage was extensive, and vast reconstruction was necessary. The heart pulsed once.

There was a single blip on the EKG, and Beamer grunted. He pushed again. And then again, but the flat high-pitch note continued unchanged. Dr. Channing was at his elbow, waiting to take over, but Beamer ignored him. Julius Beamer did not like failure. He called for the electrodes. A brief burst of electricity flowed into the heart. There was no response. He applied them again.

The reconstruction was being hindered: there was cardiac interference. The body's energies were diverted toward the heart in an effort to keep it from beating. The delicate balance had to be maintained, or the chemicals would be swept away in the bloodstream.

A drop of sweat trickled down Julius Beamer's temple. He called for a needle and injected epinephrine directly into the heart.

Chemical stimulation: hormones activated and countered immediately.

There was no response. The only sounds in the room were the long hisssssss-click of the respirator and the eerie unchanging note of the EKG. Dr. Beamer stepped back wearily and shook his head. Then he whirled in disgust and strode out of the room. A resident reached to unplug the EKG.

The interference had stopped. Reconstruction resumed at the primary site of damage.

Rounding the corner, Dr. Beamer heard someone call his name hoarsely, and he turned to see Stuart Crosby stumbling toward him.

"Julius! That woman!"

"Stuart! Hello! What are you—?"

"That woman in the explosion. Where is she?"

"I'm afraid we lost her—couldn't get her heart going. Is she a witness?"

In emergency room three, the respirator hissed to a stop. *The heart pulsed once.* But there was no machine to record it.

In the hallway, Crosby clutched at Dr. Beamer. "No. She's my wife."

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Crosby's fists covered his eyes, his knuckles pressing painfully

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into his forehead. Outside, there was a low rumble of thunder. He swallowed with difficulty and dug his knuckles in deeper, trying to reason. How can I? he wondered. How can I say yes? Jeanette!

The figure behind him moved slightly and the woman cleared her throat. "Dr. Crosby, I know this is a difficult decision, but we haven't much time." She laid a gentle hand on his shoulder. "We've got forty-three people in this area who desperately need a new kidney. And there are three potential recipients for a heart upstairs—one is an eight-year-old girl. Please. It's a chance for someone else. A whole new life."

Crosby twisted away from her and moved to the window. No, he thought, we haven't much time. In a few minutes, she would get up off that table herself and walk into this room—and then it would be too late. She wanted to die. She had been trying to die for years—how many? Fifty? A hundred? If they took her organs, she *would* die. Not even that marvelous body could sustain the loss of the major organs. All he had to do was say yes. But how could he? He hadn't even seen her face yet. He could touch her again, talk to her, hold her. After thirty years!

As he looked out the window, a drop of rain splashed against the pane. He thought of the lines of a poem he had memorized twenty years before.

From too much love of living,
  From hope and fear set free,
We thank with brief thanksgiving
  Whatever gods may be
That no man lives forever,
That dead men rise up never;
That even the weariest river
  Winds somewhere safe to sea.

The rain began to fall steadily, drumming against the window in a hollow rhythm. There was silence in the room, and for a brief moment, Crosby had the frightening sensation of being totally alone in the world.

A voice within him spoke the painful answer: Release her. Let her carry the burden no more. She is weary.

"Dr. Crosby . . ." The woman's voice was gentle.

"Yes!" he cried. "Do it! Take everything—anything you want.

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But God, please hurry!" Then he lowered his head into his hands and wept.

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Grafton Medical Center was highly efficient. Within minutes, a surgeon was summoned and preparations had begun. The first organs removed were the kidneys. Then the heart. Later, the liver, pancreas, spleen, eyeballs, and thyroid gland were lifted delicately and transferred to special containers just above freezing temperature. Finally, a quantity of bone marrow was removed for use as scaffolding for future production of peripheral blood cellular components.

What had been Jeanette Crosby was wheeled down to the morgue.

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The woman's voice was doubtful. "We usually don't allow relatives. You see, once the services are over . . ."

Stuart Crosby clutched his hat. "There were no services. I only want a few minutes."

The owner of the crematory, a burly, pleasant looking man, entered the outer office. "Can I do something for you, sir?"

The woman turned to him. "He wanted a little time with the casket, Mr. Gilbert. The one that came over from the hospital this morning."

"Please," Crosby pleaded. "There were no services—I didn't want any, but I just—I didn't realize there'd be no chance to say goodbye. The hospital said she was sent here, and . . . I'm a doctor. Dr. Stuart Crosby. She's my wife. Jeanette Crosby. I didn't think until today that I wanted to . . ." He trailed off and lowered his head.

The owner hesitated. "We usually don't allow this, doctor. We have no facilities here for paying the last respects."

"I know," mumbled Crosby. "I understand—but just a few minutes—please."

The manager looked at the secretary, then back to the old man. "All right, sir. Just a moment, and I'll see if I can find a room. If you'll wait here, please."

The casket was cream-colored pine. It was unadorned. The lid was already sealed, so he could not see her face. But he knew it would be at peace.

He stood dry-eyed before the casket, his hands clapsed in front

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of him. Outside, the rain that had begun the day before was still drizzling down. He could think of nothing to say to her, and he was only aware of a hollow feeling in his chest. He thought ramblingly of his dog, and how he hadn't made his bed that morning, and about the broken windshield wiper he would have to replace on his car.

Finally he turned and walked from the room, bent over a bit because his back hurt. "Thank you," he said to the owner. Stepping outside into the rain, he very carefully raised his umbrella.

The owner watched him until the car pulled onto the main road. Then he yelled, "Okay Jack!"

Two men lifted the casket and bore it outside in the rain toward the oven.

Cells divided, differentiated, and divided again. The reconstruction was almost complete. It had taken a long time, almost twenty-four hours. The body had never been challenged to capacity before. Removal of the major organs had caused much difficulty, but regeneration had begun almost at once, and the new tissues were now starting the first stirrings of renewed activity.

The casket slid onto the asbestos bricks with a small scraping noise. The door clanged shut, and there was a dull ring as the bolt was drawn.

There was a flicker of light behind the eyelids, and the new retinas registered it and transmitted it to the brain. The heart pulsed once, and then again. A shuddering breath.

Outside the oven, a hand reached for the switches and set the master timer. The main burner was turned on. Oil under pressure flared and exploded into the chamber.

There was a shadow of awareness for a long moment, and then it was gone.

After thirty minutes, the oven temperature was nine hundred degrees Fahrenheit. The thing on the table was a third of its original size. The secondary burners flamed on. In another half hour, the temperature had reached two thousand degrees, and it would stay there for another ninety minutes.

The ashes, larger than usual, had to be mashed to a chalky, brittle dust.

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As Dr. Kornbluth began easing off the dressing, she smiled at the young face on the pillow before her.

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"Well, well. You're looking perky today, Marie!" she said.

The little girl smiled back with surprising vigor.

"Scissors, please," said Dr. Kornbluth and held out her hand.

Dr. Roeber spoke from the other side of the bed. "Her color is certainly good."

"Yes. I just got the lab report, and so far there's no anemia."

"Has she been given the Prednisone today?"

"Twenty milligrams about an hour ago."

The last dressing was removed, and the two doctors bent over to examine the chest: the chest that was smooth and clean and faintly pink, with no scars, no lumps, no ridges.

"Something's wrong." said Dr. Kornbluth. "Is this a joke, Dr. Roeber?"

The surgeon's voice was frightened. "I don't understand it, not at all."

"Have you the right patient here?" She reached for the identification bracelet around Marie's wrist.

"Of course it's the right patient!" Dr. Roeber's voice rose. "I ought to know who I operated on, shouldn't I?"

"But it isn't possible!" cried Dr. Kornbluth.

The girl spoke up in a high voice. "Is my new heart okay?"

"It's fine, honey," said Dr. Kornbluth. Then she lowered her voice. "This is physiologically impossible! The incision has completely healed, without scar tissue. And in thirty-two hours, doctor? In thirty-two hours?"

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ON OUR MUSEUM
A PREVIEW OF THE NEW SMITHSONIAN
by George O. Smith

I first saw the *Spirit of St Louis* in flight above Chicago in the summer when Charles A. Lindbergh was touring the United States after his return from Europe. Then, for some forty-odd years, the *Spirit* hung in the old red brick building formally known as the Smithsonian Institution; informally known as The Castle; and occasionally called, with humorous affection 'The Attic of America.' The latter was well earned. Space was at a premium, so displays and exhibits were crowded together to the point where proximity distorted the comprehension of what the *Spirit of St Louis* had accomplished.

But now the *Spirit of St Louis* has a new home. It is called the Smithsonian National Air and Space Museum. It is an assemblage of buildings of glass and metal girders that fills the area between The Mall and Independence Avenue for three full blocks. The halls and exhibit rooms are large and airy; the roof is a grid of special girders and the spaces between them are skylight glass with a special filter component that passes the visible spectrum without altering the color balance but blocks the ultraviolet that fades pigments and causes deterioration. Thus the illumination by day is natural. The arrangement, plus the adequate space and the size of the halls, makes one overlook the wires that suspend the aircraft and gives the impression that they are airborne in a clear sky with visibility unlimited.

One enters the main lobby from Independence Avenue and walks through a broad hall almost all the way through the building, to be overwhelmed by an exhibit hall that is best described by the word 'vast.' It is difficult to estimate dimensions of something so big when one is so close. But since we're informed that the girdered and skylighted roof is 62 feet above ground floor, and the hall appears wider and deeper, the hall is truly immense and the exhibits have the elbow room they deserve. The hall is appropriately called

THE MILESTONES OF FLIGHT

and it spans 73 years of man's solution to his age-old dream of

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flying, which starts with the first success at Kitty Hawk. Free of crowding and distraction, the *Spirit of St. Louis* hangs about thirty feet above the floor, about on a level with the second floor—which ends with a visitor's balcony overlooking the hall. The *Spirit* seems poised as if in flight, three-quartering away from the nearside left corner of the balcony.

Below, and seeming about to pass under the *Spirit*, the Wright Brothers' *Flyer* hangs wing-square approaching the visitors, at the historical altitude of 12 feet, the height at which powered flight was first achieved for those notable 12 seconds in December, 1903. The *Flyer* was airborne over a flight of 120 feet. Only 40 years later, evolution produced the B-29 Flying Fortress, which had a wingspan longer than the Wright Brothers' first flight.

Possibly of some puzzlement to the lay visitor is the fact that the wingspan of the *Flyer* is comparable to that of the *Spirit*, a dimensional relationship caused by the widely disparate relative speeds of the two aircraft. The Wright Brothers *Flyer* covered about 120 feet in its first airborne excursion and was aloft for 12 seconds. A bit of slide-ruling or button-poking resolves this to slightly less than 8 miles per hour; however, there was a head wind, so wind speed was about 30. The *Spirit* cruised at 95; on the flight to Paris it averaged about 107. Perforce, it required considerably greater wing area to keep the *Flyer* aloft, despite the vast difference in weight.

Then, in appropriate high contrast, high in the farside left at about 45 feet altitude is the jet aircraft X-1, the first to exceed the speed of sound, Mach One. It is poised in simulated flight, quartering from the farside left toward the nearside right.

And in *this* corner, poised in flight from nearside right toward farside left, the X-15 is about to meet and pass its fore-runner at an airspeed greater than Mach Six.

Thus, in a single vast, colorful, elaborate display, the Air and Space Museum has collected under one monumental roof the first faltering steps of the infant aircraft at eight miles per hour to robust maturity at Mach Six, a staggering one-mile-plus per second!

But we are not done. Three more milestones remain, but for practical reasons they are not poised as if in flight. For their environment is the vast, void black of space. These rest on the floor,

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in the foreground, in a line across the front of the rotunda. In chronological order, they are:

1. The Mercury Spacecraft, in which John Glenn became the first American to orbit the Earth.

2. Gemini IV, from which Ed White emerged to take the first American space walk.

3. Apollo 11, which carried Neil Armstrong, Edwin Aldrin, and Michael Collins to the Moon. Armstrong and Aldrin made their 'Giant Step' while Collins stood by in lunar orbit. What happens to those who ". . . also serve who only stand and wait."? Well now, Michael Collins is Director of the Air and Space Museum, and who could be better qualified for such a task than one of the astronauts who'd *been there and seen it?*

The backdrop for this striking exhibit is a broad picture window that spans the breadth of the hall and runs from floor to girdered ceiling, polished plate glass as far as the eye can reach, broken only by the slender mullions in which the panes are set. The view overlooks The Mall, so the bottom border consists of trees that line The Mall; above, the sky of Washington.

We arrived at eventide, to see the Milestones of Flight set against a deep blue sky, tastefully decorated by a billow of cloud softly tinted with the fading light of the setting Sun. Things couldn't possibly have been organized better.

This alone would have been well worth the trip. But we were hardly about to call it a go, because with a beginning like this, we wanted to see what they could cook up for an encore. Could they, perchance, top their own act?

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While we ponder this question, let's outline the occasion and explain how we got there.

This visit was a 'Preview' that took place on Saturday evening, 26 June. The invitation said "9 to 11 o'clock," but obviously there were quite a number of us who had itchy feet, because we arrived about 8:30 and found the place already a-bubble with guests. It was a gala occasion, and party atmosphere prevailed. The women wore long party dresses and the men were casually dressed for the event. There was no attempt to conduct a tour; we were free to meander as we pleased. However, by some form of mutual consent, there was a general trend from this first entrance exhibit toward the hall adjacent, which was devoted to air transportation;

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then back across the second floors and through the concourses to the building on the other side, which carries exhibits of the Space Age.

Second, how come I managed to get into this company? Well it turns out that Mr. Fred Durant of the Smithsonian Institution and Willy Ley had been close friends since before World War Two. Willy's interest in air and space flight alone would have made an invitation a certainty, his friendship with Mr. Durant ensured it. However, as most of us know, Willy Ley has a lunar crater named for him on the far side of the Moon, but one of the prerequisites of this honor is that the recipient of the honor must be dead.

The formal invitation therefore read, "Mrs. Willy Ley and Guest." Not only was I available, but nothing short of a personal visitation from the Four Horsemen of the Apocalypse would have made me consider saying, "Sorry."

The Museum opened to the public on the Saturday of the Bicentennial Week End.

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It is incorrect to describe the Museum of Air and Space in simple architectural terms. It is a 'building' if one accepts the word in its simple meaning. But how to describe an integrated complex that is composed of four structures externally identical, connected by three broad concourses that are, in themselves, worthy of attention?

So we leave this first fabulous exhibit and wander upstairs to find that the balcony affords another view-angle of The Milestones of Flight, and that some of the information presented on the little signboards is here and there expanded from those below. And that the 'Milestones' were selected because they were, indeed, those considered the most important stepping stones of mankind's ambition to reach the unreachable stars. One finds in wandering through the halls and displays of this entrance building that there are a rather large number of half-mile and quarter-mile stones along the road.

At this point I must confess to some confusion about where this and that specific event is exhibited. The Museum is far too vast; there are too many special halls with special exhibits, and I do not possess eidetic recall. Second, of course, I did not know that George Scithers was going to call on me to write this bit.

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However, the two major halls on either side of the entrance hall are devoted, respectively, to aviation and its evolution into a mode of transportation, and the space age to date.

Chronologically, then, we went into the air section and promptly became confused because the only way to see it all was to operate like the fellow in Stephen Leacock's nonsense novel who ran out of the castle, threw himself on his horse, and galloped madly off in all directions. After all, there are two floors, and on each there are seventeen special galleries that trace the history or tell the story of some specific subject, and a general exhibition area at either end. One is overwhelmed.

It is by no means humorless. In a section devoted to the lighter-than-air phase, there is a puppet exhibit showing the antics of two bold adventurers who made it across the English Channel in a hydrogen-filled balloon in 1785, arriving on the French side with the basket awash after tossing everything overboard to lighten ship. 'Everything' in this case means they started with the sand ballast, and followed that with their anchors, books, food, their clothing, and finally their last bottle of brandy. They made it, but with the basket awash, the hardy adventurers were hanging from the shrouds of the gas bag.

In a more serious vein, the more modern, rigid aircraft are shown by the model of the *Hindenburg* that was built for the moving picture of the same name. The original crashed in 1937, you may remember, in Lakehurst, not very far south from where I'm writing these words. The control gondola, built from the original plans, displays how these monsters of the air were navigated.

It will come as no surprise to anyone that aviation took tremendous strides during the World War years. At the onset of World War One, aircraft were used for reconnaissance, shell-spotting, and the like. The brave aviators waved good luck to one another until one sorehead carried a gun aloft and had at the enemy.

That started it; by the end of the War, the aircraft had evolved into the covered fuselage, engine-in-front biplane, with machine guns synchronized to fire through the propeller as devotees of the late late show all know. Among the exhibits of this stormy period is one showing a typical wartime military airfield in France; in the foreground is a typical shack, used as 'Mission Control' and nearby stands the biplane used, ready to take off once the pilots

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are briefed. One almost expects Errol Flynn to stride out clutching his goggles in one hand whilst he jauntily slings the long silk scarf over his shoulder.

The close of World War One opened another era: There were military aircraft still in crates, and now there were trained pilots out of flying jobs. The result was the barnstorming era, in which pilots either singly or in a group called a 'Flying Circus' roamed the country giving exhibitions of stunt flying and later taking up the brave and foolhardy for short hops at five to ten dollars a ride. This is the Exhibition Flight Gallery. It captures the circus atmosphere, complete with a wingwalker doing his thing on the top of a JND4— the famous 'Flying Jenny.'

Then came the period of speed, and air racing became the thing. And with the quest for speed came better construction and sleeker streamlining, better engines and generally more efficient design.

Wiley Post sits beside the *Winnie Mae* on the ground floor of the Museum's Flight Testing Gallery; or rather, he seems to, for it is the high-altitude pressure suit he designed. It was the first space suit, but a far cry from those used today. It looks for all the world like a converted deep-sea diving suit, topped by a vertical, cylindrical helmet of metal, with a round glass porthole to peer out through. In the *Winnie Mae*, Post broke both altitude and long distance speed records in the period between 1930 and 1935.

The evolution of commerical air transport is very well exhibited. I've mentioned that the roof is constructed of a grid of girders. Well, one of the exhibits is the old workhouse of the air, a Douglas DC-3, hanging as if in flight—all 8 tons of it! The DC-3 well earned its place of honor. Hordes of them still ply the airlanes through those places of the world where short hops with relatively few passengers are adequate to the traffic demand. The DC-3 is by no means the beginning and the end. The flight halls are filled with other greats of the airlines. Not the jumbo jets of today, but the forerunners of the vast fleet of big commercial airlines and airliners that grew with the growing demand for air travel.

Aviation through World War Two is well covered. Planes of both sides are there, complete with a brief history of their claims to fame. It becomes quite clear that both sides were playing the game of Can You Top This? On either side of the main exhibit

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all are galleries; the U.S. Army Air Force operations in the gal-ry on one side, while Naval Air activity is depicted in the gal-ry on the other. Naval Air is presented as a simulation of the angar deck of a carrier in the midst of a wartime action.

Naturally, there is a section devoted to the helicopter, appro-riately called the Vertical Flight Gallery. It begins with Leonardo a Vinci's plans for vertical flight by rotating vanes. There are some the futile—and occasionally amusing—attempts to obtain verti-al flight.

To close this side of the Museum, one exhibit hall is a must, ven though it goes under the frightening name 'The Gallery of light Technology.' One quickly forgets the name. This gallery ows working models of wind tunnels and how they are used to lve problems in flight. There are operating cut-away models of gines, the complicated instrumentation, things and devices that ery few people ever get to see. The evolution of flight itself is aced by animation, models, and moving pictures from the mo-on of a sea-gull's wings in flight to the conceptual planning of ie space shuttle. And placed here in The Gallery of Flight echnology is Hughes's racing airplane, the H-1, in which the te Howard Hughes smashed speed records in the Twenties. It is ere instead of among those planes of the period in which speed as the essence because the H-1 was so far ahead of its time that me of the notable fighter planes developed on both sides in Vorld War Two were spin-offs that used some of the H-1's innovative atures.

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Following the meandering crowd, we reached the hall on the her side of the main entry building. This is the hall devoted to 'he Wonders Of Space,' which includes the largest single item in ie whole Museum. This is the Skylab Orbital Workshop, a great linderical structure sheathed with a reflective gold foil. Beside ie Skylab is one of the solar power panels, a monstrous rectang-lar paddle that carries 150,000 solar cells. One enters the kylab from the balcony that overlooks the floor of the hall; and walking through, one sees the laboratories, workshops, living uarters, and recreation rooms where the Skylab personnel will end their weeks or months in orbit.

Nearby stands the Apollo and Soyuz spacecraft—not the actual

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ones flown by American and Soviet astronauts* but training models identical to those flown.

I'm told that, to the stranger at first glance, the Redwood Trees in Sequoia National Forest do not seem to be so big because the only other trees available there for comparison are Douglas Firs. In other words, there are two degrees: Colossal and Supercolossal. So Space Hall is dominated by four monsters that stand in a pit about fifteen feet deep so they can be upright without passing through the roof. Accepting the Museum's dimensions of 62 feet from floor to roof, another 15 makes them about 75 feet tall. Big, huh? Nope. Saturn V looms up four times as tall, which is why they don't have one on exhibit.

But they do have a couple of rocket engines from the big birds and these are enough to frighten the timid. One begins to understand why they keep visitors three miles from the launch-pad. It isn't, as someone tried to explain some time back, to astonish the onlooker by making him wait fifteen seconds after ignition before he hears the blast. (Since sound travels faster through the ground, one can *feel* the vibration through the soles of his shoes before he hears the racket!)

Such monsters didn't suddenly appear. They evolved, as we all well know. They evolved from those flimsy experiments that illustrate part of the opening chapters of Willy Ley's *Rockets, Missiles and Space Travel*, and from the experiments of Goddard, for which he had to get a place Out West where there was space enough to permit him to play with fireworks without burning up Massachusetts. They evolved through the air-to-air missiles used in World War Two when airspeeds began to cope with bullet speed; a profusion of these hang from the roof above the balcony in Space Hall. They evolved through the V-2, one of which stands mutely in the hall. (It apparently had been fired, because the outer skin is a bit the worse for wear.)

Also hanging in Space Hall is one of the oddball vehicles produced by the next phase of space. It is an experimental wingless aircraft; a hybrid intended to be equally at home in air or space. Its purpose was—is?—to iron out problems that can be expected in building and running the shuttle. Its designation is 'M2-F3

*To stay always one step ahead, the Soviet's spacehounds are called 'Cosmonauts' It's called 'One Upmanship' by Stephen Potter.

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ifting Body.' It is a stubby thing, vaguely shaped like m'lady's ravelling flatiron, with a vertical vane on either side fitted with ontrol surfaces and a vertical fixed stabilizing vane in the center ear. The ultimate goal is the shuttle that will be used to serve he Skylab. Presumably, the booster will be recovered and reused, nd the shuttle itself is equipped to make a runway landing after escending from Skylab.

We're told an interesting story about the model on exhibit. eems that this one was re-collected and re-assembled after a dis-strous 'hard' landing that scattered pieces from hell to break-ast. Motion pictures of the spectacular crash are now being used n the opening sequence of the *Six Million Dollar Man*; but that ruth isn't strange enough for fiction. The actual pilot of the 12-F3 was only mildly injured. It was the vehicle that required he reconstruction, not the man!

Spaceflight itself takes three galleries to explore. The missions f Mercury, Gemini, and Apollo are carefully detailed as the steps re recounted from the first sub-orbital flights to the final land-ngs on the Moon. A brother of the Lunar Rover stands there, ooking like a stripped down Model T. Carrying this thing to the Moon gives one a rather firm idea of how far things have ad-anced since Sputnik I startled us into action.

Next, the wide spate of satellites have their own gallery, in hich they hang, lighted from below against a dark sky, each ith an explanation of when it went up and what it did or does nce in orbit. Even your author, who has been able to keep track f such things, was a bit flabbergasted at the number and variety f these fellows. Frankly, I must admit that my major interest in atellitery lies in communications, and so I confess that the umber devoted to weather forecasting and other scientific fact-athering probes got far ahead of me.

Speaking of communication satellites, I did not see Arthur C. larke at this Museum preview, and no one approached me to au-ograph a copy of *Venus Equilateral*, but there is one gallery set side for theorizing on what goes on Out There. It's called 'Life In he Universe.'

We're learning more about it as I write, now that the Mars robe has landed and is scratching at the red sands of Mars. In his gallery, a mosaic of photographs taken of the Red Planet dur-ng the previous fly-bys gives us a good idea of what the place

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looks like, close up. It's barren. It's rocky. It's no place to live, and not much of a place to visit unless you are completely prepared to withstand the environment and absolutely certain of an on-schedule return trip, money-back guaranteed.

There is a film commentary that depicts the various theories about the origin of the Universe. Sensibly, it sticks to reasonable conjectures and does not fly out to left field.

I did not get to see it, but we're told that there is a doodad that lets the visitor set up the environmental conditions for an imaginary planet, after which a computer concocts a form of life that might be viable under the conditions selected. This I'd like to try— but then, it probably is programmed to display a blank and snarl back something like, "Helium argide can't exist at minus sixty kelvin, you dumbskull!"

However, the *U.S.S. Enterprise* is on exhibition since it is no longer on its five year mission, ". . .to boldly go . . ."

Two more features complete the Space Hall. One is a library that will be made available to researchers upon application. The other is an art exhibit of appropriate paintings, drawings, and other media devoted to space and air. There is also an auditorium that we didn't see; it includes a recently developed projector that throws a picture on a screen that is described as being about four stories high and six wide, with a battery of multiple speakers to produce enveloping sound.

And finally, there is a Bicentennial gift from the Federal Republic of Germany. It is one of the newly developed planetarium projectors, presented by West Germany in honor of Albert Einstein. It projects the heavens, as all such projectors do, for the past present, and future; and it can perform stunts (as all such projectors can) such as blanking out the stars to show the motion of the planets over a highly-accelerated time base. This being the Smithsonian Air and Space Museum, the management has unhappily committed an etymological monstrosity by calling it the Albert Einstein *Spacearium*.

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Then having walked for three hours, and been completely overcome by the beauty of it all, we called it a night. We left, determined to return some time when we had a couple of weeks to really *see* the place.

Wunderbar!

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AIR RAID
by Herb Boehm

Raised in Texas, Herb Boehm now lives among the tall trees of Oregon—a state that has recently been building up a very respectable population of SF writers. Mr. Boehm tells us he has no occupation but writing; and says that if things keep going as well as they have, he may never have to do another lick of work. He's very much a supporter of the women's movement, trying to people his stories with a majority of females.

I was jerked awake by the silent alarm vibrating my skull. It won't shut down until you sit up, so I did. All around me in the darkened bunkroom the Snatch Team members were sleeping singly and in pairs. I yawned, scratched my ribs, and patted Gene's hairy flank. He turned over. So much for a romantic send-off.

Rubbing sleep from my eyes, I reached to the floor for my leg, strapped it on and plugged it in. Then I was running down the rows of bunks toward Ops.

The situation board glowed in the gloom. Sun-Belt Airlines Flight 128, Miami to New York, September 15, 1979. We'd been looking for that one for three years. I should have been happy, but who can afford it when you wake up?

Liza Boston muttered past me on the way to Prep. I muttered back, and followed. The lights came on around the mirrors, and I groped my way to one of them. Behind us, three more people staggered in. I sat down, plugged in, and at last I could lean back and close my eyes.

They didn't stay closed for long. Rush! I sat up straight as the sludge I use for blood was replaced with supercharged go-juice. I looked around me and got a series of idiot grins. There was Liza, and Pinky and Dave. Against the far wall Cristabel was already turning slowly in front of the airbrush, getting a caucasian paint job. It looked like a good team.

I opened the drawer and started preliminary work on my face.

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It's a bigger job every time. Transfusion or no, I looked like death. The right ear was completely gone now. I could no longer close my lips; the gums were permanently bared. A week earlier, a finger had fallen off in my sleep. And what's it to you, bugger?

While I worked, one of the screens around the mirror glowed. A smiling young woman, blonde, high brow, round face. Close enough. The crawl line read *Mary Katrina Sondergard, born Trenton, New Jersey, age in 1979: 25.* Baby, this is your lucky day.

The computer melted the skin away from her face to show me the bone structure, rotated it, gave me cross-sections. I studied the similarities with my own skull, noted the differences. Not bad, and better than some I'd been given.

I assembled a set of dentures that included the slight gap in the upper incisors. Putty filled out my cheeks. Contact lenses fell from the dispenser and I popped them in. Nose plugs widened my nostrils. No need for ears; they'd be covered by the wig. I pulled a blank plastiflesh mask over my face and had to pause while it melted in. It took only a minute to mold it to perfection. I smiled at myself. How nice to have lips.

The delivery slot clunked and dropped a blonde wig and a pink outfit into my lap. The wig was hot from the styler. I put it on, then the pantyhose.

"Mandy? Did you get the profile on Sondergard?" I didn't look up; I recognized the voice.

"Roger."

"We've located her near the airport. We can slip you in before take-off, so you'll be the joker."

I groaned, and looked up at the face on the screen. Elfreda Baltimore-Louisville, Director of Operational Teams: lifeless face and tiny slits for eyes. What can you do when all the muscles are dead?

"Okay." You take what you get.

She switched off, and I spent the next two minutes trying to get dressed while keeping my eyes on the screens. I memorized names and faces of crew members plus the few facts known about them. Then I hurried out and caught up with the others. Elapsed time from first alarm: twelve minutes and seven seconds. We'd better get moving.

"Goddam Sun-Belt," Cristabel groused, hitching at her bra.

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"At least they got rid of the high heels," Dave pointed out. A year earlier we would have been teetering down the aisles on three-inch platforms. We all wore short pink shifts with blue and white stripes diagonally across the front, and carried matching shoulder bags. I fussed trying to get the ridiculous pillbox cap pinned on.

We jogged into the dark Operations Control Room and lined up at the gate. Things were out of our hands now. Until the gate was ready, we could only wait.

I was first, a few feet away from the portal. I turned away from it; it gives me vertigo. I focused instead on the gnomes sitting at their consoles, bathed in yellow lights from their screens. None of them looked back at me. They don't like us much. I don't like them, either. Withered, emaciated, all of them. Our fat legs and butts and breasts are a reproach to them, a reminder that Snatchers eat five times their ration to stay presentable for the masquerade. Meantime we continue to rot. One day I'll be sitting at a console. One day I'll be *built in* to a console, with all my guts on the outside and nothing left of my body but stink. The hell with them.

I buried my gun under a clutter of tissues and lipsticks in my purse. Elfreda was looking at me.

"Where is she?" I asked.

"Motel room. She was alone from 10 PM to noon on flight day."

Departure time was 1:15. She cut it close and would be in a hurry. Good.

"Can you catch her in the bathroom? Best of all, in the tub?"

"We're working on it." She sketched a smile with a fingertip drawn over lifeless lips. She knew how I like to operate, but she was telling me I'd take what I got. It never hurts to ask. People are at their most defenseless stretched out and up to their necks in water.

"Go!" Elfreda shouted. I stepped through, and things started to go wrong.

I was faced the wrong way, stepping *out* of the bathroom door and facing the bedroom. I turned and spotted Mary Katrina Sondergard through the haze of the gate. There was no way I could reach her without stepping back through. I couldn't even shoot without hitting someone on the other side.

Sondergard was at the mirror, the worst possible place. Few

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people recognize themselves quickly, but she'd been looking right at herself. She saw me and her eyes widened. I stepped to the side, out of her sight.

"What the hell is . . . hey? Who the hell . . ." I noted the voice, which can be the trickiest thing to get right.

I figured she'd be more curious than afraid. My guess was right. She came out of the bathroom, passing through the gate as if it wasn't there, which it wasn't, since it only has one side. She had a towel wrapped around her.

"Jesus Christ! What are you doing in my—" Words fail you at a time like that. She knew she ought to say something, but what? *Excuse me, haven't I seen you in the mirror?*

I put on my best stew smile and held out my hand.

"Pardon the intrusion. I can explain everything. You see, I'm—" I hit her on the side of the head and she staggered and went down hard. Her towel fell to the floor. "—working my way through college." She started to get up, so I caught her under the chin with my artificial knee. She stayed down.

"Standard fuggin' *oil*!" I hissed, rubbing my injured knuckles. But there was no time. I knelt beside her, checked her pulse. She'd be okay, but I think I loosened some front teeth. I paused a moment. Lord, to look like that with no make-up, no prosthetics! She nearly broke my heart.

I grabbed her under the knees and wrestled her to the gate. She was a sack of limp noodles. Somebody reached through, grabbed her feet, and pulled. *So long, love! How would you like to go on a long voyage?*

I sat on her rented bed to get my breath. There were car keys and cigarettes in her purse, genuine tobacco, worth its weight in blood. I lit six of them, figuring I had five minutes of my very own. The room filled with sweet smoke. They don't make 'em like that anymore.

The Hertz sedan was in the motel parking lot. I got in and headed for the airport. I breathed deeply of the air, rich in hydrocarbons. I could see for hundreds of yards into the distance. The perspective nearly made me dizzy, but I live for those moments. There's no way to explain what it's like in the pre-meck world. The sun was a fierce yellow ball through the haze.

The other stews were boarding. Some of them knew Sondergard so I didn't say much, pleading a hangover. That went over well,

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with a lot of knowing laughs and sly remarks. Evidently it wasn't out of character. We boarded the 707 and got ready for the goats to arrive.

It looked good. The four commandos on the other side were identical twins for the women I was working with. There was nothing to do but be a stewardess until departure time. I hoped there would be no more glitches. Inverting a gate for a joker run into a motel room was one thing, but in a 707 at twenty thousand feet . . .

The plane was nearly full when the woman that Pinky would impersonate sealed the forward door. We taxied to the end of the runway, then we were airborne. I started taking orders for drinks in first.

The goats were the usual lot, for 1979. Fat and sassy, all of them, and as unaware of living in a paradise as a fish is of the sea. *What would you think, ladies and gents, of a trip to the future? No? I can't say I'm surprised. What if I told you this plane is going to—*

My alarm beeped as we reached cruising altitude. I consulted the indicator under my Lady Bulova and glanced at one of the restroom doors. I felt a vibration pass through the plane. *Damn it, not so soon.*

The gate was in there. I came out quickly, and motioned for Diana Gleason—Dave's pigeon—to come to the front.

"Take a look at this," I said, with a disgusted look. She started to enter the restroom, stopped when she saw the green glow. I planted a boot on her fanny and shoved. Perfect. Dave would have a chance to hear her voice before popping in. Though she'd be doing little but screaming when she got a look around . . .

Dave came through the gate, adjusting his silly little hat. Diana must have struggled.

"Be disgusted," I whispered.

"What a mess," he said as he came out of the restroom. It was a fair imititation of Diana's tone, though he'd missed the accent. It wouldn't matter much longer.

"What is it?" It was one of the stews from tourist. We stepped aside so she could get a look, and Dave shoved her through. Pinky popped out very quickly.

"We're minus on minutes," Pinky said. "We lost five on the other side."

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"Five?" Dave-Diana squeaked. I felt the same way. We had a hundred and three passengers to process.

"Yeah. They lost contact after you pushed my pigeon through. It took that long to re-align."

You get used to that. Time runs at different rates on each side of the gate, though it's always sequential, past to future. Once we'd started the snatch with me entering Sondergard's room, there was no way to go back any earlier on either side. Here, in 1979, we had a rigid ninety-four minutes to get everything done. On the other side, the gate could never be maintained longer than three hours.

"When you left, how long was it since the alarm went in?"

"Twenty-eight minutes."

It didn't sound good. It would take at least two hours just customizing the wimps. Assuming there was no more slippage on 79-time, we might just make it. But there's *always* slippage. I shuddered, thinking about riding it in.

"No time for any more games, then," I said. "Pink, you go back to tourist and call both of the other girls up here. Tell 'em to come one at a time, and tell 'em we've got a problem. You know the bit."

"Biting back the tears. Got you." She hurried aft. In no time the first one showed up. Her friendly Sun-Belt Airlines smile was stamped on her face, but her stomach would be churning. *Oh God, this is it!*

I took her by the elbow and pulled her behind the curtains in front. She was breathing hard.

"Welcome to the twilight zone," I said, and put the gun to her head. She slumped, and I caught her. Pinky and Dave helped me shove her through the gate.

"Fug! The rotting thing's flickering."

Pinky was right. A very ominous sign. But the green glow stabilized as we watched, with who-knows-how-much slippage on the other side. Cristabel ducked through.

"We're plus thirty-three," she said. There was no sense talking about what we were all thinking: things were going badly.

"Back to tourist," I said. "Be brave, smile at everyone, but make it just a little bit too good, got it?"

"Check," Cristabel said.

We processed the other quickly, with no incident. Then there

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was no time to talk about anything. In eighty-nine minutes Flight 128 was going to be spread all over a mountain whether we were finished or not.

Dave went into the cockpit to keep the flight crew out of our hair. Me and Pinky were supposed to take care of first class, then back up Cristabel and Liza in tourist. We used the standard "coffee, tea, or milk" gambit, relying on our speed and their inertia.

I leaned over the first two seats on the left.

"Are you enjoying your flight?" Pop, pop. Two squeezes on the trigger, close to the heads and out of sight of the rest of the goats.

"Hi, folks. I'm Mandy. Fly me." Pop, pop.

Half-way to the galley, a few people were watching us curiously. But people don't make a fuss until they have a lot more to go on. One goat in the back row stood up, and I let him have it. By now there were only eight left awake. I abandoned the smile and squeezed off four quick shots. Pinky took care of the rest. We hurried through the curtains, just in time.

There was an uproar building in the back of tourist, with about sixty percent of the goats already processed. Cristabel glanced at me, and I nodded.

"Okay, folks," she bawled. "I want you to be quiet. Calm down and listen up. *You,* fathead, *pipe down* before I cram my foot up your ass sideways."

The shock of hearing her talk like that was enough to buy us a little time, anyway. We had formed a skirmish line across the width of the plane, guns out, steadied on seat backs, aimed at the milling, befuddled group of thirty goats.

The guns are enough to awe all but the most foolhardy. In essence, a standard-issue stunner is just a plastic rod with two grids about six inches apart. There's not enough metal in it to set off a hijack alarm. And to people from the Stone Age to about 2190 it doesn't look any more like a weapon than a ball-point pen. So Equipment Section jazzes them up in a plastic shell to real Buck Rogers blasters, with a dozen knobs and lights that flash and a barrel like the snout of a hog. Hardly anyone ever walks into one.

"We are in great danger, and time is short. You must all do exactly as I tell you, and you will be safe."

You can't give them time to think, you have to rely on your status as the Voice of Authority. The situation is just *not* going to make sense to them, no matter how you explain it.

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"Just a minute, I think you owe us—"

An airborne lawyer. I made a snap decision, thumbed the fireworks switch on my gun, and shot him.

The gun made a sound like a flying saucer with hemorrhoids, spit sparks and little jets of flame, and extended a green laser finger to his forehead. He dropped.

All pure kark, of course. But it sure is impressive.

And it's damn risky, too. I had to choose between a panic if the fathead got them to thinking, and a possible panic from the flash of the gun. But when a 20th gets to talking about his "rights" and what he is "owed," things can get out of hand. It's infectious.

It worked. There was a lot of shouting, people ducking behind seats, but no rush. We could have handled it, but we needed some of them conscious if we were ever going to finish the Snatch.

"Get up. Get *up*, you *slugs!*" Cristabel yelled. "He's stunned, nothing worse. But I'll *kill* the next one who gets out of line. Now *get to your feet* and do what I tell you. *Children first! Hurry,* as fast as you can, to the front of the plane. Do what the stewardess tells you. Come on, kids, *move!*"

I ran back into first class just ahead of the kids, turned at the open restroom door, and got on my knees.

They were petrified. There were five of them—crying, some of them, which always chokes me up—looking left and right at dead people in the first class seats, stumbling, near panic.

"Come on, kids," I called to them, giving my special smile. "Your parents will be along in just a minute. Everything's going to be all right, I promise you. Come on."

I got three of them through. The fourth balked. She was determined not to go through that door. She spread her legs and arms and I couldn't push her through. I will *not* hit a child, never. She raked her nails over my face. My wig came off, and she gaped at my bare head. I shoved her through.

Number five was sitting in the aisle, bawling. He was maybe seven. I ran back and picked him up, hugged him and kissed him, and tossed him through. God, I needed a rest, but I was needed in tourist.

"You, you, you, and you. Okay, you too. Help him, will you?" Pinky had a practiced eye for the ones that wouldn't be any use to anyone, even themselves. We herded them toward the front of the plane, then deployed ourselves along the left side where we could

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cover the workers. It didn't take long to prod them into action. We had them dragging the limp bodies forward as fast as they could go. Me and Cristabel were in tourist, with the others up front.

Adrenalin was being catabolized in my body now; the rush of action left me and I started to feel very tired. There's an unavoidable feeling of sympathy for the poor dumb goats that starts to get me about this stage of the game. Sure, they were better off, sure they were going to die if we didn't get them off the plane. But when they saw the other side they were going to have a hard time believing it.

The first ones were returning for a second load, stunned at what they'd just seen: dozens of people being put into a cubicle that was crowded when it was empty. One college student looked like he'd been hit in the stomach. He stopped by me and his eyes pleaded.

"Look, I want to *help* you people, just . . . what's going *on*? Is this some new kind of rescue? I mean, are we going to crash—"

I switched my gun to prod and brushed it across his cheek. He gasped, and fell back.

"Shut your fuggin' mouth and get moving, or I'll kill you." It would be hours before his jaw was in shape to ask any more stupid questions.

We cleared tourist and moved up. A couple of the work gang were pretty damn pooped by then. Muscles like horses, all of them, but they can hardly run up a flight of stairs. We let some of them go through, including a couple that were at least fifty years old. *Je*-zuz. Fifty! We got down to a core of four men and two women who seemed strong, and worked them until they nearly dropped. But we processed everyone in twenty-five minutes.

The portapak came through as we were stripping off our clothes. Cristabel knocked on the door to the cockpit and Dave came out, already naked. A bad sign.

"I had to cork 'em," he said. "Bleeding Captain just *had* to made his Grand March through the plane. I tried *every*thing."

Sometimes you have to do it. The plane was on autopilot, as it normally would be at this time. But if any of us did anything detrimental to the craft, changed the fixed course of events in any way, that would be it. All that work for nothing, and Flight 128 inaccessible to us for all Time: I don't know sludge about time theory, but I know the practical angles. We can do things in the

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past only at times and in places where it won't make any difference. We have to cover our tracks. There's flexibility; once a Snatcher left her gun behind and it went in with the plane. Nobody found it, or if they did, they didn't have the smoggiest idea of what it was, so we were okay.

Flight 128 was mechanical failure. That's the best kind; it means we don't have to keep the pilot unaware of the situation in the cabin right down to ground level. We can cork him and fly the plane, since there's nothing he could have done to save the flight anyway. A pilot-error smash is almost impossible to Snatch. We mostly work mid-airs, bombs, and structural failures. If there's even one survivor, we can't touch it. It would not fit the fabric of space-time, which is immutable (though it can stretch a little), and we'd all just fade away and appear back in the ready-room.

My head was hurting. I wanted that portapak very badly.

"Who has the most hours on a 707?" Pinky did, so I sent her to the cabin, along with Dave, who could do the pilot's voice for air traffic control. You have to have a believable record in the flight recorder, too. They trailed two long tubes from the portapak, and the rest of us hooked in up close. We stood there, each of us smoking a fistful of cigarettes, wanting to finish them but hoping there wouldn't be time. The gate had vanished as soon as we tossed our clothes and the flight crew through.

But we didn't worry long. There's other nice things about Snatching, but nothing to compare with the rush of plugging into a portapak. The wake-up transfusion is nothing but fresh blood, rich in oxygen and sugars. What we were getting now was an insane brew of concentrated adrenalin, super-saturated hemoglobin, methedrine, white lightning, TNT, and Kickapoo joyjuice. It was like a firecracker in your heart; a boot in the box that rattled your sox.

"I'm growing hair on my chest," Cristabel said, solemnly. Everyone giggled.

"Would someone hand me my eyeballs?"

"The blue ones, or the red ones?"

"I think my ass just fell off."

We'd heard them all before, but we howled anyway. We were strong, *strong*, and for one golden moment we had no worries. Everything was hilarious. I could have torn sheet metal with my eyelashes.

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But you get hyper on that mix. When the gage didn't show, and didn't show, and *didn't sweetjeez show* we all started milling. This bird wasn't going to fly all that much longer.

Then it did show, and we turned on. The first of the wimps came through, dressed in the clothes taken from a passenger it had been picked to resemble.

"Two thirty-five elapsed upside time," Cristabel announced.

"Je-zuz."

It is a deadening routine. You grab the harness around the wimp's shoulders and drag it along the aisle, after consulting the seat number painted on its forehead. The paint would last three minutes. You seat it, strap it in, break open the harness and carry it back to toss through the gate as you grab the next one. You have to take it for granted they've done the work right on the other side: fillings in the teeth, fingerprints, the right match in height and weight and hair color. Most of those things don't matter much, especially on Flight 128 which was a crash-and-burn. There would be bits and pieces, and burned to a crisp at that. But you can't take chances. Those rescue workers are pretty thorough on the parts they *do* find; the dental work and fingerprints especially are important.

I hate wimps. I really hate 'em. Every time I grab the harness of one of them, if it's a child, I wonder if it's Alice. *Are you my kid, you vegetable, you slug, you slimy worm?* I joined the Snatchers right after the brain bugs ate the life out of my baby's head. I couldn't stand to think she was the last generation, that the last humans there would ever be would live with nothing in their heads, medically dead by standards that prevailed even in 1979, with computers working their muscles to keep them in tone. You grow up, reach puberty still fertile—one in a thousand—rush to get pregnant in your first heat. Then you find out your mom or pop passed on a chronic disease bound right into the genes, and none of your kids will be immune. I *knew* about the para-leprosy; I grew up with my toes rotting away. But this was too much. What do you do?

Only one in ten of the wimps had a customized face. It takes time and a lot of skill to build a new face that will stand up to a doctor's autopsy. The rest came pre-mutilated. We've got millions of them; it's not hard to find a good match in the body. Most of them would stay breathing, too dumb to stop, until they went in

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with the plane.

The plane jerked, hard. I glanced at my watch. Five minutes to impact. We should have time. I was on my last wimp. I could hear Dave frantically calling the ground. A bomb came through the gate, and I tossed it into the cockpit. Pinky turned on the pressure sensor on the bomb and came running out, followed by Dave. Liza was already through. I grabbed the limp dolls in stewardess costume and tossed them to the floor. The engine fell off and a piece of it came through the cabin. We started to depressurize. The bomb blew away part of the cockpit (the ground crash crew would read it—we hoped—that part of the engine came through and killed the crew: no more words from the pilot on the flight recorder) and we turned, slowly, left and down. I was lifted toward the hole in the side of the plane, but I managed to hold onto a seat. Cristabel wasn't so lucky. She was blown backwards.

We started to rise slightly, losing speed. Suddenly it was uphill from where Cristabel was lying in the aisle. Blood oozed from her temple. I glanced back; everyone was gone, and three pink-suited wimps were piled on the floor. The plane began to stall, to nose down, and my feet left the floor.

"Come on, Bel!" I screamed. That gate was only three feet away from me, but I began pulling myself along to where she floated. The plane bumped, and she hit the floor. Incredibly, it seemed to wake her up. She started to swim toward me, and I grabbed her hand as the floor came up to slam us again. We crawled as the plane went through its final death agony, and we came to the door. The gate was gone.

There wasn't anything to say. We were going in. It's hard enough to keep the gate in place on a plane that's moving in a straight line. When a bird gets to corkscrewing and coming apart, the math is fearsome. So I've been told.

I embraced Cristabel and held her bloodied head. She was groggy, but managed to smile and shrug. You take what you get. I hurried into the restroom and got both of us down on the floor. Back to the forward bulkhead, Cristabel between my legs, back to front. Just like in training. We pressed our feet against the other wall. I hugged her tightly and cried on her shoulder.

And it was there. A green glow to my left. I threw myself toward it, dragging Cristabel, keeping low as two wimps were thrown head-first through the gate above our heads. Hands

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grabbed and pulled us through. I clawed my way a good five yards along the floor. You can leave a leg on the other side and I didn't have one to spare.

I sat up as they were carrying Cristabel to Medical. I patted her arm as she went by on the stretcher, but she was passed out. I wouldn't have minded passing out myself.

For a while, you can't believe it all really happened. Sometimes it turns out it *didn't* happen. You come back and find out all the goats in the holding pen have softly and suddenly vanished away because the continuum won't tolerate the changes and paradoxes you've put into it. The people you've worked so hard to rescue are spread like tomato surprise all over some goddam hillside in Carolina and all you've got left is a bunch of ruined wimps and an exhausted Snatch Team. But not this time. I could see the goats milling around in the holding pen, naked and more bewildered than ever. And just starting to be *really* afraid.

Elfreda touched me as I passed her. She nodded, which meant well-done in her limited repertoire of gestures. I shrugged, wondering if I cared, but the surplus adrenalin was still in my veins and I found myself grinning at her. I nodded back.

Gene was standing by the holding pen. I went to him, hugged him. I felt the juices start to flow. *Damn it, let's squander a little ration and have us a good time.*

Someone was beating on the sterile glass wall of the pen. She shouted, mouthing angry words at us. *Why? What have you done to us?* It was Mary Sondergard. She implored her bald, one-legged twin to make her understand. She thought she had problems. God, was she pretty. I hated her guts.

Gene pulled me away from the wall. My hands hurt, and I'd broken off all my fake nails without scratching the glass. She was sitting on the floor now, sobbing. I heard the voice of the briefing officer on the outside speaker.

". . . Centauri 3 is hospitable, with an Earth-like climate. By that, I mean *your* Earth, not what it has become. You'll see more of that later. The trip will take five years, shiptime. Upon landfall, you will be entitled to one horse, a plow, three axes, two hundred kilos of seed grain . . ."

I leaned against Gene's shoulder. At their lowest ebb, this very moment, they were so much better than us. I had maybe ten years, half of that as a basketcase. They are our best, our very

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brightest hope. Everything is up to them.

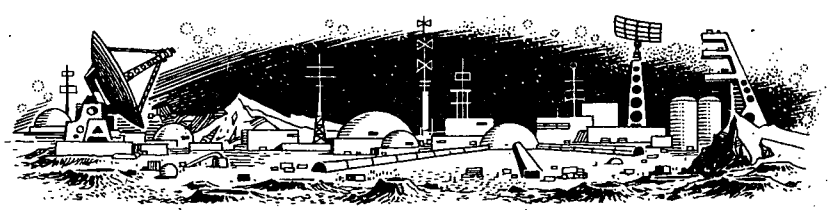
"... that no one will be forced to go. We wish to point out again, not for the last time, that you would all be dead without our intervention. There are things you should know, however. You cannot breathe our air. If you remain on Earth, you can never leave this building. We are not like you. We are the result of a genetic winnowing, a mutation process. We are the survivors, but our enemies have evolved along with us. They are winning. You, however, are immune to the diseases that afflict us . . ."

I winced, and turned away.

"... the other hand, if you emigrate you will be given a chance at a new life. It won't be easy, but as Americans you should be proud of your pioneer heritage. Your ancestors survived, and so will you. It can be a rewarding experience, and I urge you . . ."

Sure. Gene and I looked at each other and laughed. *Listen to this, folks. Five percent of you will suffer nervous breakdowns in the next few days, and never leave. About the same number will commit suicide, here and on the way. When you get there, sixty to seventy percent will die in the first three years. You will die in childbirth, be eaten by animals, bury two out of three of your babies, starve slowly when the rains don't come. If you live, it will be to break your back behind a plow, sun-up to dusk. New Earth is Heaven, folks!*

God, how I wish I could go with them.



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KINDERTOTENLIEDER
or
WHO PUTS THE CREAMY WHITE FILLING IN THE KRAP-SNAX?

by Jonathan Fast

Jonathan Fast was born in 1948 in New York City. He studied music and art through high school and college, and did graduate work in music at the University of California at Berkeley. In 1974, he was one of several writers who worked on the movie, Two Missionaries, *in Colombia, South America. Mr. Fast recently returned from Malibu to New York City to settle down and write; here is one result of that move . . .*

Jack Smith was eighteen seconds olders than his sister Jane. They had the same strawberry hair (hers bobbed at the shoulder, his short with a cowlick that defied the comb), the same guileless blue eyes and patch of freckles at the bridge of the nose. They were healthy and filled with adventure and, like all seven-year-old children, always finding their way into mischief.

One day their dad, Mr. Smith, was given a new fountain pen by the guys at the office, and what a fountain pen it was! Black with a gold nib and clip and a gold inscription:

TO MR. SMITH—
FROM THE GUYS AT THE OFFICE

Mr. Smith put it in the top drawer of his desk and warned the children not to play with it, an invitation to disaster.

Being the older, Jack mounted the chair and removed the pen. (This while Mr. and Mrs. Smith were at the PTA meeting and the babysitter, a sixteen-year-old cheerleader from the local high school, was occupied with her boyfriend in the living room.) Jack's motive was curiosity more than mischief, but the two go hand in hand.

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"What's this do?" his sister asked, fooling with the filler clip, and an instant later there was a blotch of ink on the wallpaper.

"Now we'll get it," Jack said.

Resourceful Jane brought a wet paper towel from the kitchen and rubbed the blotch until her arm grew sore.

"They'll never know," she said.

"What about the pen? You emptied all the ink out."

Jane located Mr. Smith's inkwell and tried to fill the pen but, pushing the filler clip the wrong way, cracked the shiny black barrel. She did manage to pour some ink in the crack and, with her brother's help, cleaned up much of what had spilled on the carpet. The crack was sealed with scotch tape, the pen replaced in its drawer. When Mr. and Mrs. Smith returned from the PTA meeting, the twins were playing an innocent game of Chutes and Ladders.

"Did Jack and Jane behave themselves?" Mr. Smith asked.

"Angels," the babysitter replied, buttoning her blouse, and her boyfriend nodded emphatically.

"Mind if I write you out a check?" Mr. Smith asked, going to his desk.

"Uh oh," Jack said, under his breath.

Mr. and Mrs. Smith were not so unobservant as Jane had supposed. A patina of tiny fingerprints left no doubt about the culprits. The twins were marched straight to bed—no hot chocolate, no bedtime story, and worst of all, no *Captain Krap-Snax*, their favorite evening television show.

The Captain had a curly moustache and gentle brown eyes; and when he wept, which happened at least once a show, the tears would well up and flow like tiny rivers down either side of his big, funny nose. Captain Krap-Snax wept over Lost Innocence, over the Inhumanity of Man and the Anonymous Cruelty of Fate. The kids loved it.

That night's episode was *Captain Krap-Snax Solves the Riddle of the Cosmos*. Jack and Jane had been looking forward to it all week. To have such precious knowledge so close at hand and to be denied it was unbearable. (Captain Krap-Snax didn't pull any punches.) They sobbed and sniffled far into the night.

Mr. Smith searched for sleep between the flowered percale, but the sounds from the twins' room down the hall, faint, like creaking hinges, kept him awake. Near midnight he put on his robe

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and slippers and carried a heavy burden of guilt to their room on tip-toe. (It wouldn't do for Mrs. Smith to find out; she called him "Permissive" and "Weak-willed" and likened his spine to old celery. God, how he wished she'd slip in the shower and split her pretty platinum blonde head.)

"What's all this sobbing and sniffling?" he asked, settling his bulk at the side of Jane's bed.

"Tonight was the night." Jack buried his face in the pillow and his voice came broken and muffled. "Captain Krap-Snax was going to solve the riddle of the cosmos and, and . . ."

"And you made us miss it," his sister said, soberly studying the button eye of her brown-and-white stuffed bear.

"You disobeyed me. You broke my pen." Mr. Smith tried to sound firm, but the twins were so adorable in their red flannel Dr. Denton's, so adorably forlorn—his resolve gave way and he gathered them to his bosom, murmuring comforting words.

"Ah my children, my dear, dear children. Forgive us for being so harsh with you. We try to raise you as best we know how, but sometimes in our zeal we overstep the bounds of reason."

Now the twins saw that they had Mr. Smith just where they wanted him and started to bargain. By the time he trudged back to his bedroom they were a curly-haired doll, a ten-speed bike, and a *whole carton* of Krap-Snax the better for it. Worth it, Mr. Smith thought, laying his head beside his wife's cold platinum, to hear their laughter like tiny tinkling bells; a lullaby.

"Listen carefully, my dear children," Mr. Smith said the next day when they returned from school. "The ten-speed bicycle is in the garage; the curly-haired doll is in the toy chest; and the carton of Krap-Snax is waiting under your bed. Run up and eat them now. If Mrs. Smith finds out, she'll hide the Krap-Snax and give you only one a week and make you brush your teeth after eating it."

The twins ran to their room. Jack, being the older, reached under the bed and pulled out a red, white, and blue carton. On the cover, Captain Krap-Snax held up one of the delicious little cakes and asked, in a cartoon balloon emanating from his mouth: "Who puts the creamy white filling in the Krap-Snax?"

The riddle of the cosmos. Reminded of it, the twins grew depressed.

"We'll never find out," Jack sighed.

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"You know," Jane said, after thinking it over for a minute, "Dad got off pretty easy. He's out a bike and a doll and a couple of dollars worth of cake; but we've missed The Answer."

"Yeah."

"It's not fair."

"Nope."

"It's a cheat!"

"Yeah!"

They tore the crinkly cellophane off a couple of cakes and munched glumly, musing over the injustice of it. It was a bad lot, they decided, being children. Captain Krap-Snax understood. If only the Captain were there, he'd know how to make it better.

They ate some more cakes and thought about the Captain's gentle brown eyes and the way he wept for them, and they reminisced about the Captain's adventures on Bongo and how he had once saved two children, quite a lot like Jack and Jane, from the sickle-toothed saliva-slick jaws of the Snatchensnapper.

When Mrs. Smith called them for dinner, only one Krap-Snax remained in the carton and their bellies were round, tight little drums.

"I'm not too hungry," Jack said, when Mrs. Smith started to dish out the macaroni and cheese.

"Me neither," said Jane.

Mrs. Smith gazed at them, and they could almost feel the waves of cold radiating from her platinum hair.

"Are those cake crumbs on your T-shirt, Jack?" Mrs. Smith asked. "And do I see creamy white filling at the corner of your mouth, Jane? You haven't, by any chance been eating Krap-Snax before dinner?" she asked with rising rage.

"I don't think they would . . . not before dinner . . . doesn't seem likely . . ." Mr. Smith mumbled. She silenced him with an icicle to the heart.

"Straight to bed, both of you!" she snapped. "No cocoa, no bedtime story, and I'm afraid you will miss *Captain Krap-Snax* again.

"Furthermore, I'll be keeping a close eye on Mr. Smith—don't think I didn't notice that shiny new ten-speed bike in the garage and the curly-haired doll in Jane's toychest—and he better not try any of his late night tip-toeing to the twins' room."

Mr. Smith stared guiltily at his plate. His bulk seemed to droop

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like warm wax.

"What a crummy deal," Jane said later, lying in the dark, "what a crummy, crummy deal," and hurled her stuffed bear. It hit the far wall with a satisfying thud.

"Yeah," Jack agreed, "and I'm hungry."

"There's a Krap-Snax left."

Jack snapped on the light. He pulled the carton from under the bed, picked up the last crinkly-wrapped Krap-Snax and hesitated. Beneath it was writing.

"Hey!" Jack said, "it's a message from the Captain," and held it up to the lamp for easy reading. "It says: 'Kids, are your parents insensitive to the agony of childhood? Do they levy cruel punishments for deeds which should not be punished in the first place? Send 100 proof of purchase seals to: The Captain, Post Office Box 1, Passaic, New Jersey, and I'll send something to ease the pain.' " Jack grinned. "Count on the Captain."

At school, the twins made it known they were in the market for Krap-Snax proof of purchase seals. Andy Wilson, whose index finger permanently plugged a nostril, had thirty-six collected towards a Captain Krap-Snax Genetic Mutation rifle, which he planned to use on his big sister. These he reluctantly traded Jack for a month's homework and unlimited use of the new ten-speed. Jane negotiated a similar deal with pudgy Dorothy Weiss: two month's homework for nineteen seals she had been saving for a Captain Krap-Snax decoder ring. Ruthless Sammy Morris sold them seventeen for two dollars, and by the end of the week they had scavenged twelve more from the lunchroom refuse. Plus the seal Jack had saved the night he discovered the offer, they had eighty-five. The remaining fifteen were purchased with piggy bank and pooled allowances.

"What's this?" said Mr. Smith one evening, opening a special delivery package. "For Jack and Jane Smith. Imagine! My dear little children receiving packages, just like grown-ups. It seems only yesterday they were toddling in their playpen and so forth and so on."

The twins could hardly wait to get to their room to tear away the plain brown wrapper. The package contained a scrap of paper covered with childish scrawls, an empty medicine bottle, a little blue box, and a cover letter written in a bold hand:

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Dear Kids,

I promised you something to make your folks shape up and when the Captain promises, he delivers!

First sign your name at the bottom of the scrap of paper, just the way you'd sign a letter. Then take one of the pills in the blue box (be sure to have lots of water handy so it won't stick in your throat!).

Lie down on your bed holding the scrap of paper in one hand and the empty bottle in the other.

Good luck and best wishes,
The Captain

The twins had just finished reading it when the letter turned to dust.

"Gosh!" said Jane.

They read the scrawls on the scrap of paper, and both signed their names in the lower right hand corner.

"Wow!" said Jack, "I think I see the Captain's plan."

Being the older, he opened the little blue box and inside were two little blue pills. No sooner had they swallowed the pills (one apiece, plenty of water, just like the Captain said) when the box also turned to dust, a dust fine as the motes that dance in a sunbeam.

Jane lay down on her bed holding the empty bottle.

Jack lay down on his bed holding the scrap of paper.

Next morning at seven, Mr. Smith discovered the stiff little bodies in their red flannel shrouds. Fifteen minutes later Dr. Klapsacks arrived.

"Is there any hope?" Mr. Smith whimpered, his face twisted in pain, his great bulk jelly-jiggling at every sob. "We found this empty bottle in Jane's hand."

"Sleeping pills," Dr. Klapsacks said, solemnly twirling his curly mustache. "You should have kept them on a high shelf. You should have had a bottle with a tamper-proof cap."

"I know, I know," Mr. Smith wailed.

"We found this scrap of paper in Jack's hand." Mrs. Smith said, and snowflakes drifted from the corner of her eye.

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Dear Mom and Dad,

Because we loved you so much, we wanted you to be proud of us. We always tried our hardest to be good little boys and/or girls. But we guess our hardest wasn't good enough. Goodbye.

Jack and Jane

"You must have been very cruel," Dr. Klapsacks said, regarding them with gentle brown eyes.

"Oh, we were," Mr. Smith said. "So very, very cruel. If only we could have another chance . . ."

Dr. Klapsacks was bending over Jane, peeling back her eyelid. He rose and turned to Mr. and Mrs. Smith. "I'm afraid it's too late."

○ ● ○

At noon a representative from Knapshack's Funeral Parlor arrived. He had gentle brown eyes and a curly moustache and, as he sat with Mr. and Mrs. Smith, sharing their grief, tears streamed down either side of his big, funny nose. Respectfully he offered his condolences and a funeral plan kind on the pocketbook.

"They were such dear, dear little children," Mr. Smith began, for the twentieth time that day. "If only . . ."

"I'm sure," the representative said, "they will find lasting peace with the Almighty."

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Rain drummed on the taut black skin of umbrellas. Family and friends gathered about the ditch, high heels sinking into the mud, polished Oxfords spattered and begrimed. The coffins were lowered—Jack's first, being the older—and laid to rest side by side.

The Minister preached a moving sermon, recalling all of the twins' virtues and nearly none of their faults (as people are apt to do, eulogizing). He tossed a clot of mud into the ditch—it rang hollow on the coffin top—and the gathering slowly dispersed, shiny wet raincoated couples moving down the hill to where the limousines waited.

"Wonderful children," murmured Mrs. Crumpet, their second grade teacher.

"Angels," said Sally Snippet, a cheerleader from the local high school, huddling under her boyfriend's umbrella.

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"And what a marvelous minister!" Aunt Edna said to Uncle Bill. "With those gentle brown eyes. I never thought it proper for clergy to wear moustaches, but that curly one, somehow it was just right. What *was* his name?" she asked Uncle Bill, thinking it might be useful to remember for future deaths.

"Er, Stackcaps? Or was it Kapstacks?"

"Packstaps," said Uncle George, who always knew everything.

○ ● ○

Jack awoke in musty darkness. He tried to sit up and banged his nose on a tufted silk ceiling only inches above; nor was there room to move to the left or right. He called for Jane. He called for Mr. and Mrs. Smith; then for anyone who might hear.

When nobody came he stopped calling and thought to examine the situation. He was wearing his best suit and somehow, he realized, feeling his head, someone had managed to make his cowlick stay down. (Fat lot of good it would do him here, wherever he was.) He felt all around for an opening, a latch or a lightswitch, but the rhomboid tufted silk ran the radius of his reach uninterrupted. He was cold. Damp. Lonely, oh so lonely! He started to cry.

He didn't know how long he cried, but there came a time when the little space smelled musty indeed and he had difficulty filling his lungs. He began to cough and choke and scream senselessly.

Then the floor fell out like a funhouse ride and he was falling, the way he fell in his dreams, right down to the middle of the Earth, perhaps. He landed—plop!—on a soft feather bed. It was still dark but he knew someone was beside him.

"Jane?" he asked softly, tentatively.

"Jack?" came his sister's voice from the darkness.

What a joyful reunion that was! They were still hungry and cold and lost, but at least they were together, wonderful together. (And isn't that half the twin terror of death? Alone and Forever.)

Feeling their way before them, they found the edge of the bed. Jack, being the older, slid over the side, fell four feet and landed up to his ankles in a warm soupy liquid. Jane followed and they began to walk.

He was wearing his best shoes, and after a while the liquid soaked the soles and he felt like he was walking on accordions.

"It might be easier," he said, "if we took off our shoes and socks." So they did and the slimy floor squished between their

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toes, and tiny minnow-like somethings brushed against their feet.

Once they counted together to three and shouted, "Help, help, help," loud as they could; but the darkness swallowed their voices and scared them all the more.

"This reminds me," Jane said, "of Bongo," and instantly regretted it; for Bongo was the home of, among other nameless, shapeless terrors, the Snatchensnapper.

"Naw," said Jack. "It's nothing like Bongo. I think we're at the ocean and it's night."

Jane appreciated this, though neither of them believed it.

If it had been night, then a time came when it should have been day, but the darkness remained absolute and impenetrable. They surely would have fallen from hunger and fatigue, if not for the beacon. It showed first like a star at the horizon. Their spirits soared to see it and they walked faster and the bounce came back to their step.

Gradually the beacon grew to a bar of yellow light and the twins were running, splashing and slipping in the warm soupy liquid.

"It's a sign," Jack panted, "a light-up sign, like at the bowling alley."

Then they were standing beneath it, and the sign shined down on them, turning their troubled faces the color of old newspaper. The sign said: KRAP-SNAX.

Beneath the sign was a door. On the door was a bell. Jack, being the older, rang.

They were blinded by light when the door opened.

"I've been expecting you kids," a voice said, and the voice was deep and rich and resonant. They recognized it immediately.

"Gosh, Captain," Jack said, "what are you doing here?" and visored his eyes, trying to see.

"I'm here to meet you," the Captain said. "Come on in."

They stumbled across the doorstep and their feet touched dry steel nubbly with rivets.

"Where are we?" Jane asked.

"We're on Bongo," the Captain said, then added quickly, seeing the fearful look on the twins' faces, "but don't worry, you're safe with me."

Soon their eyes adjusted to the light and they could make out his reassuring features: the gentle brown eyes, curly moustache.

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The big, funny nose. The compassionate line of his lips.

They were standing in a narrow hallway. The Captain took them by the hand and led them through a second door, into a cavernous room. Great arc lights set high above glared off the riveted steel and the din of machinery was painful to the ear. Thousands of children Jack and Jane's age sat in rows, bending over conveyer belts.

"Well," the Captain said, rubbing his hands, "it's time to get to work. Here are your official Captain Krap-Snax ladles."

"Thanks, Captain," the twins said, and Jane added, "Whew! These sure are heavy!"

The Captain led them to an enormous vat filled with thick, white cream, and showed them how to fill their ladles. He seated them in two empty chairs by the conveyer belt. The chairs were steel and hard.

"Hey, Captain," Jack said, pointing to the conveyer belt, "aren't those Krap-Snax cakes?"

"They will be," the Captain replied, "once you put in the creamy white filling."

"Oh," said Jane, looking a little disappointed.

"Somebody has to do it," the Captain said.

"I guess," Jack agreed.

The little black-haired boy on his right was thin and wan, Jack noticed, and extremely nervous. He kept up a frantic pace, parting each cake, pouring the filling, sealing the wound, now and then glancing fearfully at the Captain.

"What if we don't want to?" Jack asked.

"Then you go in there." The Captain pointed to a door the twins hadn't noticed before. It was steel with reinforcements riveted across it, and from behind it came a wet snorting, drooling sound that made their skin crawl.

"What's in there?" Jane asked.

"The Snatchensnapper," the Captain replied.

And the twins went to work without so much as a grumble.

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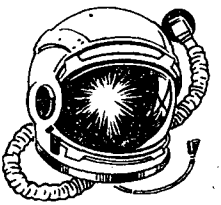
PERIOD OF TOTALITY
by Fred Saberhagen



Just recently, the author moved from his birthplace, Chicago, to New Mexico, where he and his family are enjoying the sun and scenery. His wife teaches mathematics, his children wear home-made 'Berserker' T-shirts to SF conventions, and Mr. Saberhagen has been selling science fiction since 1961.

The old man in the spacesuit came out of the low cave mouth, squinting out across the scarred and airless surface of the world informally called Slag. The land before him was a jumble of craters and hillocks and strange structures like frozen wave-foam, some of which looked almost like examples of wind-erosion. Gray was the predominant color, in shades ranging from glaring silver to dull near-black. Kilometers away, though looking deceptively nearer in the airless distance, the silvery ovoid of an interstellar spaceship waited, balancing on its larger end. The old man's gaze was turned toward the ship, and from the same general direction a double line of wide-wheeled vehicle tracks approached the place where he was standing. The tracks wound around some of the more difficult features of the landscape, and finally vanished in the broad-mouthed cave.

The cave gaped like a small black mouth in the high, silvery scarp which, like a pedestal, held Slag's sole mountain on display. It would not have been much of a mountain anywhere else, but here it dominated all.

In his suited hands the old man gripped a broad, flat plate that might have made the seat of an uncomfortable chair. He bent down and hurriedly positioned this plate on the powdery, crumbling soil, so that its flat side faced as squarely as possible toward the dwarfish sun, now creeping toward a prolonged noon. Behind the optical shelter of his faceplate the man's eyes were raised momentarily toward that alien sun, burning with a somehow dead-looking whiteness amid its unnamed constellations. A satellite looking somewhat broader than Earth's moon as seen from Earth showed a white scimitar of waning crescent. Without tarry-

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ing, the man turned and hurried back into the cave. ERICH DU BOS said the letters across his spacesuit's back.

At the start, the cave was a low overhang of rock, nearly fifty meters broad, though very shallow; inside that, its first real, sheltered chamber was only a tenth as wide, much deeper, and high enough to offer ample standing room. The cave seemed to be a series of bubble-spaces left in the mountain's base by some ancient outgassing of the planet's interior. Once inside, Du Bos edged his way around the low-slung, functional bulk of the roofless ground vehicle that took up a good part of this chamber's space, and came to stand beside his two shipmates. Clad in suits similar to his, they were silently gazing at the readout unit of the radiation counter whose pickup Du Bos had just positioned outside facing the sun. The counter was mounted in the vehicle's equipment rack.

As Du Bos watched now, Einar Amdo, ship's captain and commander of the small expedition, reached out a suited arm and switched scales on the counter. The wavering line of illuminated nines that ran across its digital panel wavered a little more, and then maintained its testimony that the intensity of the corpuscular radiation sleeting down outside was still in excess of the instrument's capacity to count at present settings. Amdo had to switch to an even less sensitive scale to get a meaningful reading, and the reading increased even as they watched. The wind that had driven the explorers to shelter was still rising.

Outside the cave, all across the eternally sun-roasted landscape of this hemisphere of Slag, the storm of solar wind raged on, a deluge of subatomic particles from the so-innocent-looking sun. Du Bos was generally accounted one of the finest astrophysicists in the galaxy—or at least in that modest portion of it that had been colonized by Earth-descended man—but this storm had taken him completely by surprise. Nothing in the decades of records of this sun's spectrum and light-curves, made from far away, or in his own observations since coming in-system here a few standard days ago, had prepared him for any such squalling solar gale as this. A few days ago, a few hours ago even, the star had presented a corona quite mild and normal for its type. Then, out of nowhere as it seemed, a blizzard of protons, a hail of neutrons, an avalanche of helium nuclei . . . all without the least trace of optical flaring on the sun, flaring that by all the known rules

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should have come to give a necessary and sufficient warning, as dark clouds and dropping pressure warn the mariner.

Du Bos leaned forward slightly, the captain drew back a little, deferentially, and the scientist took over the counter's controls. With it he sampled the divers types and energies of particles in the bombardment outside. He grunted and shook his head, thought things over, and tried again.

When Du Bos stood back from the counter a little later, he announced: "There are only two things about this flux of particles that I can say now, with any certainty. First, some new refinement of astrophysical theory is going to be required to explain it.

"Second, if we should have to leave this deep cave while it is still in progress—did you estimate about twenty minutes' driving time back to the ship, captain?—well, we are not likely to survive for that length of time outside."

"If we're in difficulties," said a girl's crisp voice, through the small radio speaker inside Du Bos's helmet, "it's my fault. That twenty minutes, I mean." Selina Jabal, third member of the expedition, continued: "Airless planetary surfaces are supposed to be my field."

"And survival is supposed to be mine," said Captain Amdo. "So I can assume the burden for whatever difficulties we have. But first let's see just how serious they are." He moved to begin an inspection of the reserve oxygen tanks, which were stowed aboard the vehicle.

Selina had meant that the grotesque appearance of the landscape, seen close up, should have at once suggested to her expert eye the possibility that this surface underwent periodic intense bombardment by particle radiation; and, just as important, she should have been aware that what seemed to be solid surface here, safe for their loaded vehicle, might prove as treacherous as any glacial icefield.

They had come to this system seeking an explanation for Slag's—and its satellite's—survival of the nova explosions that must have accompanied the reduction of this star to its present white dwarf stage. They had decided to land near the mountain, by far Slag's most conspicuous surface feature; and they had driven toward the mountain in their groundcar for less than a kilometer before being nearly killed when crevasses opened up behind them and ahead, as surface features eaten and eroded by

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ages of radiation suddenly collapsed beneath the expedition's weight.

For a short time it had seemed that they were trapped, between bottomless-looking though narrow chasms. But their vehicle, its four-wheel electric motor drive powered by counter-rotating flywheels, was stable and agile as a mule, and considerably more powerful. They had driven on to solid ground; then the only apparent trouble, which at first seemed minor, was that the shortest feasible return route to the ship, one skirting the crevasse complex, had become twenty minutes long instead of two.

Amdo had the figures now on the factor that made the situation deadly. The captain, rather stocky, and almost perfectly bald inside his helmet, turned back and gave the bad news to the others. "Well, if this storm goes on for sixteen hours or more, we're going to face a very serious oxygen problem in trying to wait it out. Du Bos, what are the chances are that it will last that long?"

"I can't say," the tall, gray astrophysicist answered instantly. "It would be sheer guesswork if I tried."

Selina Jabal, her figure even in its suit showing a suggestion of slender grace, was bending to aim one of her suit lights toward the cave's entrance. A small portion of the outside surface could be seen from this sheltered observation post.

"Kind of a fairy-castle structure," she mused on radio. "Obvious, even exaggerated. I should have thought of subatomic particle bombardment as soon as I saw it."

Captain Amdo squatted down beside her. "I suppose there's no telling from the condition of the surface how often these storms erupt, or how long they're likely to last."

"I don't see how. At least not without a major research project." Selina Jabal continued to stare at the surface, just at the entrance to the cave. "Look . . . captain, we just drove the vehicle in here once, didn't we? I mean, we didn't maneuver in and out to fit the parking space or anything."

"No . . . by God, I see what you're looking at. You're right."

They were all bending down and looking now. There in the brittle, crumbly soil ran what must be the track of their vehicle's left front roller, partially obliterated by the track of the left rear, which crossed it in a curve that showed how the tractor had been steered into this fortuitous shelter, less than a minute after the radiation alarm had sounded.

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Now, just what had made those other, older, weathered-looking roller tracks that lay beneath their own?

Outside the cave, erosion that must have been wrought at least in part by repeated solar storms seemed to have destroyed any old tracks that might otherwise have existed. And inside the cave their own booted feet had already trampled almost everywhere except directly beneath the vehicle.

Amdo was down on hands and knees, already looking there. "Another vehicle was in here once," he announced, focusing his suit lights. "More old tracks, plainer here. It had a different style of rollers from ours. In fact that looks like the kind of roller they had in use about the time . . ."

He was on his feet again abruptly, flashing his light about the cave, into niches and recesses toward which the refugees had scarcely looked as yet. "That's not one of ours."

It was a portable oxygen tank, propped on a natural rock shelf in what would have been a prominent position if the whole chamber of the cave had been evenly lighted. In a moment they all saw that the tank was weighting down what appeared to be a folded sheet of writing plastic.

"I'd say it's about as old as the rollers that made those tracks," said Amdo, giving the oxygen cylinder a cursory examination as he took it down from the niche. "And empty now, of course."

He next took down the writing plastic from the shelf, and opened its single fold. Its white surface lit up the whole chamber as the beams from three suit lamps fell on it at close range. There were a few paragraphs of handwriting, a rather unstable, wandering script.

The message, in the lingua franca of space exploration, began with a date, some forty standard years in the past, and told how the writer had been trapped in the cave, away from his ship, by an unforeseen particle storm issuing from an optically stable sun. It went on:

> Part of the risk (which I have accepted) of working alone is that there's now no one in the ship to move her to me.
>
> No eclipse is due in the next couple of hours, so the one posible answer I have worked out won't do me any good. If an eclipse were coming, the ac-

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> companying particle eclipse could save me. It begins in a different place, and some time ahead of the optical eclipse, but overlap of the areas shadod should be large. The white dwarf is so small that the optical period of totality is long—I would get the few minutes respite I need to reach my ship. Have been trapped in cave over 200 hours now with no letup of storm, and will just have to make a dash for it if weather is no better by the time my oxygen is down to half an hour. Have tried to rig a shield over the tractor with flooring & other gear but not much hope for it I fear. Not much hope that anyone will find this either but one tries.
>
> Kevin Medellin

"So, that's what happened to Medellin," mused Amdo as he turned the sheet over in gloved fingers, started to refold it automatically, and then gave it instead to Du Bos who had put out a hand.

The captain turned then, and caught sight of Selina Jabal's puzzled look behind her faceplate. "Maybe you've never heard of him. Medellin was an explorer and a rather crankish scientist—"

"Pseudoscientist," put in Du Bos, with brief contempt.

"Whatever. He had some fancy theories about protostars and other things, that are quite out of favor now. Quite a controversialist, but with enough fame and authority to be allowed to go rattling around on solo exploration trips, on one of which he disappeared, no one knew where. There was quite a furor at the time, and there are still flurries of speculation on his fate." The captain spread his hands out, palms up, pulled them back. "Now we know. He was evidently in this cave, for the same reason we are, though I don't think anyone even guessed he was in this system. Once you start to take a close look at Slag, you want to see the mountain; and once you examine the mountain, there's this cave-mouth showing up like an empty eyesocket."

"We didn't see his ship," Selina mused. "But I suppose he could have taken off, even if he didn't make it—afterwards."

Amdo asked: "What's this he says about particle eclipses? Likely to do us any good?"

The astronomer was still poring over the note. "He was evi-

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dently already suffering from anoxia when he wrote this—there are several misspellings. Of course, a particle eclipse should really begin after the optical eclipse, not earlier. The particles take longer to get here from the sun than the light does."

"But a particle eclipse should actually occur?"

"Oh, yes. I believe there's some similar effect in the Sun-Earth-Moon system, for example. Of course there the solar wind intensity can't be anything like this, but the principle will be the same." Du Bos pulled his calculator from its holster at his belt. "To determine when the next eclipse is due here, I'll have to go outside long enough to take a sighting or two on the satellite."

Privately, Du Bos was hopeful. The orbital plane of the moon of Slag was nearly parallel with that of the planet's orbit around its sun, so that a solar eclipse must come during nearly every revolution of the satellite. While approaching for a landing, the explorers had seen the broad spot of the shadow on the slow-rotating planet's midsection.

It was the young woman's turn now to study the note, while Du Bos selected instruments from the vehicle and went to make his observations. Amdo volunteered to take a turn outside, and thus minimize the older man's exposure to radiation, but Du Bos brushed him off. Less than a minute should be required, he said, and he preferred to do his own observing.

He was back as promptly as promised, and the relief in his voice was evident. "We're in luck. There'll be an eclipse this conjunction, we're right in its path, and first contact is due only about two standard hours and fifteen minutes from now. Totality will come very quickly after that and should last about twelve minutes, for the optical eclipse. Then we can watch for the particle eclipse—just how long it will last is hard to estimate—and be ready to move out in the vehicle the instant the radiation falls off. For the next couple of hours I suppose we'd better get some rest and conserve our air."

Amdo's smile was broad. "Sounds like a good plan." Selina stood straighter, and some of her innate sprightliness came back. When the two men went into an inner chamber of the cave to rest, where there was reasonable room to stretch out at approximately full length, she remained in the larger room, saying she wanted to do a little work.

Alone, she first set about gathering some samples of material

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from the floors and walls of the cave, and taking photographs. Shortly she paused, to frowningly re-read Medellin's note. Then she stowed her samples and pictures neatly on the vehicle, and unrolled a new sheet of plasticized paper, used for field notes and sketches, from a container on the same rack. She affixed the paper to a handy flat spot provided on the tractor's flank, and began to draw, still frowning.

It was about half an hour later when she approached the resting men, sketch in her hand.

"Doctor Du Bos?"

His eyes opened alertly on the instant. "Yes?"

Her tone was almost apologetic. "I've been trying to figure this out . . . look, it seems to me that maybe Medellin was right when he said that the particle eclipse comes first."

She squatted down beside the old man, holding out her diagram. It was done rather sloppily, and Amdo looking at it from Du Bos's other side could not really make out the point of it. Of course the large arc must be meant as a segment of Slag's orbit round its sun. And around the little circle that must be Slag a larger concentric circle was sketched in, holding a dot that was evidently supposed to represent the satellite in its path around the planet.

"No," said Du Bos. He started to reach for his calculator, then let it stay unneeded in its case. "Look, the light from the sun gets here in eight or nine minutes. The particles of this dangerous radiation travel much slower than light—we're not concerned with gamma rays or x-rays here, for example . . ."

"I understand that."

"Of course. Well, the particles take much longer to travel the same distance . . ." He went on, phrasing it a different way, then in still other words after that.

Amdo thought he would hate to have to argue with this man. Selina tried once or twice to get a word in, then in effect gave up. The expression of uncertainty with which she had approached the men stayed on her face.

"—understand?" Du Bos concluded.

She signed assent—or maybe it was only surrender—with a nod, and sealed it with a vague smile. "There's some more work I want to do," she said, and stood up and went back to the main cave.

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Amdo and Du Bos exchanged a glance. The scientist signed that they should switch their suit radios to an alternate channel.

"I'm a little worried about the girl," Du Bos said when they had done this. "It hit her rather hard, evidently, that she failed to keep us out of this mess we're in by foreseeing the collapsing surface structures. Now I'd say she's trying a little too hard to prove herself, accomplish something to make amends."

"Maybe." Amdo pondered. "You see any reason to believe that she's not going to be all right?"

"Personnel psychology's more your field than mine. I just thought I'd better pass on my impression."

Amdo was silent for some minutes. "I'll just take a little walk," he said then, and got to his feet, switching his radio back to the normal channel as he did so; he noted from a corner of his eye that Du Bos, remaining at rest, switched back too.

After the captain went out, Du Bos continued to rest against the cave wall, with the equanimity of one who has lived long enough and well enough to feel himself at least partially at home in any part of the universe that man could reach and enter. He had not the least intention of dying of radiation or lack of air on this forsaken world. But such would be an acceptable end, for him, if fate should have it so.

On a sudden impulse he switched once more to the alternate channel of communications, and picked up Selina Jabal's voice in mid-sentence: ". . . *does* come *before* the optical eclipse."

"Look," came Amdo's patient reply, "you showed this to Doctor Du Bos, right?"

Du Bos switched them off. Settling this kind of difficulty was the captain's field. In his mind as he drifted toward sleep he saw the white dwarf, isolated in a pure mathematical space; and he began to play with a subtle equation that might tell what sequence it had followed to reach this state without the total destruction of its planets. Maybe enlightenment would come to him, as to Kekule, in a dream . . . he was only vaguely aware of it when Amdo came back to sit down tiredly beside him once again.

The flywheel-powered electric motors of the tractor worked in the next thing to perfect silence and freedom from vibration, so all that woke them both from edgy sleep, coming through rock and suit to flesh and bone, was the gentle crunching of its rollers on the ground.

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And, only a second or two later, Selina's voice on radio: "The particle readings have dropped, all across the board. I'm off to get the ship."

Both men, wide awake at once, scrambled into the main room of the cave, the captain only a step ahead. The chamber was big and empty without the vehicle. Selina had left the radiation meter behind, sitting on the ledge where Medellin had left his note. At the moment, the readings on the meter's face were in fact very low.

Du Bos hastily checked his chronometer—first contact on the optical eclipse, according to his calculations, was not due for another hour. Then he quickly followed Amdo out of the cave, onto the glaring surface, and at once looked up to check the position of the moon in the black sky. As expected, its wide silvery crescent was still on the same side of, though now much closer to, the immobile, dazzling sun.

Amdo had taken half a dozen quick strides and then stopped, staring in frustration after the receding vehicle. Glowing orange out here in the sun's glare, it was already much too far away for a man chasing it on foot to have any chance of catching up and grabbing on. And it was dwindling quickly, evidently moving at speed as Selina steered it on a sinuous course, keeping to the safest ground as she went the long way round to get the ship.

The captain's voice on radio was calm, "Selina. If—when you get the ship lifted and moved over here, set her down on the white rock about a hundred meters in front of the cave. That looks about the solidest."

"Understand, captain," the girl's voice came back. "That does look like the best place. I'm sorry to do it this way, but I just couldn't take the time to argue any more. If totality lasts only about twelve minutes for the particle eclipse too, there's not a second to waste. At best I'm going to get a good dose of radiation at the other end, before I reach the ship and get inside."

Du Bos had Amdo by the arm and was tugging him back toward the cave, and at the same time he was motioning for a switch to the alternate radio channel.

The captain went along; and they ducked back in together, looking up then simultaneously to see that the indicated radiation level was still quite low. On the channel that should give them privacy, Du Bos said: "I—I must leave it up to you as to whether

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to order that girl to come back at once; but understand that whatever has caused this apparent lull in the storm—some magnetic effect, perhaps—may change again at any moment."

"In the first place, I don't think she'd come back, if I gave the order."

Du Bos was still gripping him. "Another possibility is that the counter's pickup unit"—he nodded toward the outside—"may have failed under overload. You'd better get her back."

"And in the second place, Doctor Du Bos, I do know something about our hardware. These counters are *very* unlikely to be knocked out by a particle bombardment. In the third place, Medellin didn't have any temporary magnetic lulls in *his* storm; I'm sure he would have taken advantage of one if it had come." As if reluctantly, the captain added: "He did say that the particle eclipse should come first. He had no authority with him and he had to think the thing out for himself."

The old man stiffened. "It can't work that way, I tell you."

"Doctor Du Bos, eclipses are not quite the same thing as astrophysics, are they?"

Du Bos glared at him but did not answer.

"Have you made any particular study of eclipses?"

"No, have you? Are you qualified to even begin. . . ?" The scientist choked down still angrier words.

The captain grimaced. "I never did really try to figure out the truth about when this particle eclipse should start, not even when Selina was arguing with me . . . so I'm not going to try now, not with only ten minutes or so left before . . . one way or the other. But two very bright people *have* really studied this thing, knowing their lives depended on it, and have come to the opposite conclusion from your offhand opinion. If you were Joe Doakes—"

"Which they are, in this case."

"—all right, if you were Joe Doakes too, the question would still have been very much open. But just because you were the eminent astronomer I bowed my head to you and never tried to think it out. And that I do regret. This trip so far hasn't been exactly my finest effort in space."

He glanced up abruptly at the counter, then switched to the radio channel that Selina presumably still was using. "How's it going, Jabal?"

"Good enough, captain."

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"Radiation is still very low here, quite tolerable. I'll let you know at once of any change."

"Understand, captain. Thank you. Fifteen more minutes and I should be in the ship."

About two more minutes of silence passed, before Du Bos walked out into the middle of the empty-looking cave, and squatted down to sketch with a gloved finger on the crumbly floor his own version of Selina's now-vanished eclipse diagram. Amdo, watching, saw the arc of planetary orbit appear, and then the epicyclic circle of the satellite's path; crude arrow-markers seemed to show that each body was moving counterclockwise in its track, as if seen from a hypothetical observers' post somewhere high above the north pole of the planet.

After staring for a full minute at what he had drawn, Du Bos stood up and got out his calculator; Amdo got the impression that the machine was only being used this time to put into rigorous, acceptable form something already done, like typing a document after the last handwritten draft is done, the fateful content known . . .

The glowing digits on the counter's face were suddenly jumping again, and the captain got on the radio at once. "Selina, a sharp rise in particle radiation has just started here. Not back to previous levels yet, but if it keeps on going up like this it soon will be."

"I understand, captain. Five more minutes and I should be in the ship." She started to say more, but a torrent of radiation-produced noise was cutting communication off.

Du Bos was holstering his calculator again. He cleared his throat; it was a startling, uncharacteristic, nervous-old-uncle sound, that almost made Amdo jump.

Du Bos said: "The particles *do* take much longer than the light to get here, as I said before. But then it doesn't follow at all that the particle eclipse will lag the optical eclipse by the same amount of time. You see, the particles that will strike the planet during the optical eclipse must have passed within the satellite's orbit some minutes earlier." He scuffed with a boot at the cave floor as he might have waved his hand at a classroom display. "See? The satellite in effect plows a clear space through the sea of particles flowing outward from the sun. This wake, cleared of particles, drifts back, lagging the satellite—"

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"The way the clear space under an umbrella lags behind when you run in the rain."

"Well, yes. And although the satellite, from *our* point of view, looks as if it's moving backwards, from west to east," Du Bos said, gesturing overhead, "Slag is carrying us and the satellite along in its orbit *faster* than the satellite is looping back, so the net movement is still forward, both still clockwise with respect to the sun, and we *do* enter the wake—the particle eclipse—first."

"You're saying that you were wrong."

Du Bos came over to stand beside him, watching the counter. The radiation outside was hellish. A silence began to stretch. It was an almost timeless stillness, reaching for eternity. But then the silence was riddled, dissolved, made—almost—irrelevant, by the glorious loud crunching of an eggshaped hull bottom grinding down on rock and pumice a few tens of meters from the cave . . .

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Slag was a million kilometers below, and sinking fast now beneath the push of interstellar engines. The corpuscular storm that still filled this solar system raged harmlessly beyond the layer of forces shielding the ovoid hull.

Selina lay in sickbay and Du Bos had been ministering to her. The tall, gray man was at her bedside helping her to a drink when Amdo came in, clutching a small wad of printout. "The medical boxes say you may be a sick lady for a while, Selina," Amdo announced, waving the prognosis he had just gotten on the bridge. "But nothing worse than that."

She smiled. And then Du Bos, who seemed to have been waiting for the proper in-person witness, smiled down at her as well, and Amdo for the first time heard from the old man something that he could construe as evidence of greatness.

"I'm sorry," said the galaxy's first astrophysicist. "I was most terribly wrong."

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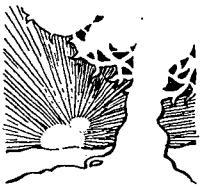
THE SCORCH ON WETZEL'S HILL

by Sherwood Springer



A native of Pennsylvania, Sherwood Springer now resides in Southern California. Once a newspaperman, now his hobbies are his occupation: he writes, paints, and fiddles with stamps. He's best known for his studies of the so-called Cinderella stamps—fantasies, counterfeits, and unlisted material in the never-never land beyond the established frontiers of philately.

Today, by merest chance, I heard a word, a single word that immediately began clattering up and down the corridors of my mind, knocking on every door.

It was an unfamiliar word, and there was a bothersome urgency about the sound of it. I tried rolling it off my tongue, but that only strengthened the certainty that I had never spoken the word before, or heard it used. Why, then, that feeling of unease about it, of something far back in my memory that stirred ominously?

Nothing would surface, however, and, brushing off the mood, I attempted to resume the pattern of my day. But the effort met resistance and soon I found myself merely going through the motions of resuming my pattern, while that accursed word nagged me insistently for attention. All of us, at some time or other, have to face it: Some things are bigger than we are. I should have given up at the beginning and consulted Webster.

It was there, all right, on page 658, all four tricky syllables of it. And, surprisingly, it was a word I *had* used in my childhood, but Noah's accent marks changed the pronunciation so drastically it was no wonder the correct usage had borne no familiarity for me. Just another example, I thought, of the many mispronunciations my mountain-bred father had handed down to me, some of which had required years to get rooted out of my vocabulary. So this was merely one more—

But as I closed the dictionary, my heart was pounding strangely. Someone besides my father had mispronounced that

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word. Someone who . . .

Have you ever stepped on land after being seaborne for days, and felt the solid earth sway beneath your feet?

Mr. Porter! But he . . .

Memories long since categorized and properly stored away suddenly started to slide from their safe little niches and tumble into new order, like the jolting change in a kaleidoscope.

In shock I realized—too late by more than forty years—that on a summer day long ago I had had it in my power to solve the mystery of the Scorch on Wetzel's Hill. And just as suddenly I knew for the first time that I had walked, as a ten-year-old on that long-gone day, into the shadow of what television viewers call the Twilight Zone.

Two generations or more have grown up and gone away from my home town since then—it was that kind of home town—and only the oldsters will remember there ever was a mystery on Wetzel's Hill. But there was, and it was there when I was a boy, and even the professors from State College floundered in their efforts to explain it.

First let me tell you about the Hill, then about the events on that day in my boyhood, and finally about the singular word that fell on my ears today which so devastatingly changed the pattern and meaning of those events.

Forty miles west of Shikelamy, the great stone face on the Susquehanna River where the Indian was fabled to have leaped to his death screaming, "She killa me!" lie sprawled the Seven Mountains. From them a procession of valleys fan out like wrinkles in the tortuous foothills of the Alleghenies: Poe Valley, Decker Valley, High Valley, Brush Valley, and Sugar Valley.

The mountains crowd the valleys forebodingly, and some obscure poet once visioned them as "waiting" when he wrote:

Across the valley hill on purple hill
Loom somberly and dark against the stars,
Like wooded backs of ancient dinosaurs
That lie there buried . . . sleeping . . . still . . .

One of these is known as Thunder Mountain, and just to the

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west of Jackpine Gap it rises slightly in a dome called Bald Knob. From this elevation it pitches in a precipitous jumble of rocks and gnarly red pine to a crescent-shaped apron about a hundred feet above the waters of Jackpine Creek. This level apron, about two acres in extent and overlooking the valley on one side, is known as Wetzel's Hill.

Fifty years before I was born (my father told me), a man named Grover Wetzel came out of the east and saw the hill. It was mountain land then, and untillable, but he liked what he saw and he purchased it on the spot. Soon afterward he brought his wife and two young sons from Hummels Wharf or Whomelsdorf or some such place—Pennsylvania is full of towns like that—and set to work clearing the land.

Grover Wetzel was a giant of a man. Some say he was kin to Lewis Wetzel, the famed Indian hunter of pioneer days. Be that as it may, he and his sons worked a miracle on the hill. Boulders, trees, and brush melted before their labors, a cabin was built and a garden planted. A small spring, common in that country, gurgled from a crevice in the mountain behind the cabin, and water was plentiful.

As the seasons passed, more and more of the land was cleared, potatoes, corn, and greens were harvested, and chickens, hogs, and a cow shared the hill with the Wetzels.

But the decades passed, too, and the sons grew up and found wives in the valley. One of them moved to Ohio and settled in Akron or Cleveland or some place, and the other found a job in town. Granchildren were born, and Grover Wetzel and his wife found themselves growing old on the hill.

They must have been over eighty when it happened.

Maggie Gephardt said later that a green ball of fire had come slanting in over Shriner Mountain to the east of Bald Knob and landed smack on Wetzel's Hill with a splash of fire. But Maggie Gephardt was famous for seeing things like that, and nobody took any stock in her story. She was still living when I was a boy of fourteen, and I can remember clearly her directions for finding the wreck of the mail plane that carried pilot Harry Ames to his death somewhere west of Hell's Gap.

She had seen the plane come down, she said, and soon she had our entire troop of Boy Scouts combing the ridge between Turpentine and Spigelmyer's Hollow in a dripping fog. There's no need to

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add that the flier's body was later found a full twenty miles to the northwest, beyond so many ridges that Maggie Gephardt couldn't possibly have seen anything connected with the crash.

But there was no doubt at all about the tragedy that occurred on Wetzel's Hill that January night about five years before I was born. One of the Edmonds boys was driving home in his sleigh about three o'clock in the morning after a late date with some girl in Brush Valley. He saw the cabin ablaze as he came through the Gap and started arousing neighbors along Jackpine Creek. One of them telephoned John Stover in town. As chief of the volunteer fire department he was able to rout many townsmen from their beds. But it was a futile effort. The roof of the cabin had already fallen in, and the walls were on the point of collapse when the first neighbor with his bucket reached the crest of the hill. Later the bodies of Grover and Ruth Wetzel were found burned beyond recognition on the remains of what had once been their bed.

It was a tragedy, of course, but not unique in those days of fireplaces, wood stoves, and coal oil lights. Not in the dead of winter, anyway. People shook their heads in sadness but they were not mystified. The mystery was to come later.

The Wetzel boys and their children's families were there for the funeral. They disposed of the livestock which had survived, and the feed and tools which were in an outlying barn, but the land they did not offer for sale. Some years later, when they finally did put it on the market, it was too late.

For a curse had come to Wetzel's Hill.

It did not come overnight. The following spring was like any other spring. My father told me that if anyone at all had noticed anything strange on the hill that year he certainly didn't mention it. And my father was in a position to know since he was tollkeeper, and our house was by the old tollgate just inside the gap and right around the bend from Wetzel's Hill. When you're a tollkeeper, my father said, you hear everything that happens in both valleys, and what you don't hear isn't worth knowing.

Maybe the grass and weeds up on the hill didn't grow as high that year, and maybe they did burn brown earlier under the August sun, but it wasn't until the following year that it really was noticeable.

Some said later it was the half-wit called Pasty Pumpernickel who first noticed the change. "It looks to me," he said one day,

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"like it got scorched up at the old Wetzel place."

Pasty probably would have been the first to see it, just by the nature of his existence. He wandered the mountains and the town like some friendly, homeless dog, ungainly and unlettered, sleeping in barns, accepting meals where they were offered, doing odd jobs sometimes, and perennially being made the butt of schoolkids' jokes. But if you grew up in my home town you already know about Pasty Pumpernickel.

At any rate, a landmark was born, and even before June had merged into July people for miles around were commenting on the "Scorch."

Many climbed the hill to see for themselves. They walked around, kicked the dusty lumps of earth and shook their heads. Grass that had sprouted in March and April was already dead. The ground was powdery, just as if there hadn't been a drop of rain since the snows melted. This was the peculiar part, for it had been a wet spring, and the valley and mountainsides were lush and green. What could have happened to Wetzel's Hill?

"It's the Lord's doing, and none of our affair," some folks said. But there were others who had a different explanation. "Somebody's put a hex on that patch," they said, pausing to look warily over each shoulder. And children were warned to keep their distance. These hills, you know, are not beyond the limits of the old Pennsylvania hex country, and disturbing memories linger there.

But the mystery, however, remained a mystery, in spite of an investigation made by the county agent and some professors from State College several years later. They poked around on the hill one whole afternoon, made soil tests, and later collaborated on a report that ran—it was said later—over 20,000 words. What this report boiled down to was that a roughly oval area about 200 feet long on Wetzel's Hill wasn't getting any rain. Even Pasty Pumpernickel could have told them that.

As the years went by, however, and the Scorch remained bare, people referred to it only in the nature of a landmark, and so it remained for fifteen years, or until that day in summer when I was a ten-year-old boy.

So much for the hill.

Now I must tell you what led up to that day—and the coming of Mr. Porter.

It has long been my opinion that almost any child can become a

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prodigy if his interest in a particular subject can be sufficiently aroused and sustained. In my case my father made sure of that. Before I was eight years old I could name on sight every species of wildflower and tree that grew within a mile of our house. By the age of ten I was a prancing encyclopedia on the subject (although I must confess that now, forty years later and living in another clime, I would be hard put to distinguish a mimosa from a cyclamen). It was this precocious learning that led me into the series of events that followed.

Only a small truck patch separated our house from Jackpine Creek—and if you happen to be a fisherman you already know there are few better trout streams in the whole state. And although my father kept many a salty word on tap to prove his low estimate of fishermen in general, and of those who left boot tracks in his garden in particular, for my part I kept a cunning eye cocked toward their flashing fly rods. Hemlocks, birches, and alders crowded the stream and, with hungry branches waiting to snag an unwary line, there was many a nickel to be earned by a boy who could shinny up trees.

And that was how I met the newspaperman from Philadelphia. While I freed his hook from a branch he stood knee deep in the riffles and cussed the "damn spruce trees."

"This is a hemlock, mister," I said. "Spruce trees don't grow around here."

"Well, damn the hemlocks then," he said. "What makes you think this isn't a spruce tree?"

"It don't have spruce needles, that's why."

Whatever answer he was expecting, it wasn't that. His jaw opened for comment, closed again, and then he burst into laughter. I remember how I liked his crinkly eyes.

After a minute he said, "By God, that makes sense. The world could use some of it. Come down here and tell me about the needles."

Well, we sat on the bank at the edge of the truck patch and I showed him how the hemlock needles grew all along the twigs. Spruce needles, I told him, grow in bunches. I ran to a white pine which stood farther upstream and brought back a switch. "See, like this," I said. "White pine needles grow five in a bunch, sorta long. Red pine has three, and they're shorter. Up on the ridge we got southern yellow pine, that has two and they're awful long. We

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also got jack pine and table mountain pine around here, but no spruce trees—unless you go and buy one from the tree man."

"What's your name?" he asked, and he rooted in his coat for a scratch pad and a stubby pencil. I told him my name, and we sat there while he made notes as I reeled off answers to his queries. Along the line somewhere I volunteered the information there was a place to go if he got caught in the rain—the Scorch.

I swear I never met a man with so much curiosity. Right away he wanted to know all about the Scorch, and before you know it he had stowed his fishing gear in the car, slung a camera around his neck, and we were climbing up the side of Wetzel's Hill. He made some more notes, and took pictures of me and the Scorch. Later when he said goodby I thought that was the end of it.

But it wasn't.

On a Sunday morning about two weeks later, our phone began to ring. And it didn't stop ringing all day. All of a sudden I was a celebrity. I guess everybody in town called up to say how they'd seen my picture in the Philadelphia *Inquirer*. Along about four o'clock my father said he wouldn't stop much and take the damn receiver off the hook and leave it off. But we had a party line, and you can't do a thing like that, my mother said—as if anybody else on our line had a chance to use it that day anyway. So the calls continued, and when I went to bed that night I couldn't sleep, thinking how it was the biggest day of my life.

But even the greatest splash in a pond has to subside. Only in this case one of the ripples penetrated an obscure crevice. I wasn't to realize how obscure until more than forty years had passed.

It began about a week later with another telephone call. It was Bill Kerstetter who ran the Union Hotel in town.

"There's a man here from Philadelphia," he told my mother, "wants to see Sherwood about hunting wildflowers and stuff. He's some kind of perfessor."

And that's how Mr. Porter entered my life. He came driving up after a while in an old Ford and spent some time talking to my father. He was a naturalist from the Museum of Natural History, my father told me, and probably quite famous. He wanted to go hiking the next day and hoped I would do him the favor of showing him around.

Well, after he drove away, my mother had plenty to say on that subject.

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"Any man his age," she said, "with that bad heart and all, has no business traipsing up and down these mountains with a child. He could keel over dead."

"How can you tell he got a bad heart?" I asked.

"Blue lips, that's how. Blue lips mean a bad heart, as anybody knows. And look at his skin, just like cheese. Poor circulation."

I had to admit Mr. Porter did have a funny look, at that, with his curly white hair, bushy eyebrows, and those glasses he wore. His eyes looked half pinched shut behind lenses the color of coffee.

But my father wouldn't listen to any objection. "Mr. Porter's old enough to know what he's doing, and Sherwood knows every inch of these mountains. If something happens and he needs help he'll come for it." And that was that.

So next day Mr. Porter and I started up the Watery Road which winds up the hollow back of our house. It was only a sort of road, although my father said wagons used to use it in the old logging days. Alders, laurel, and rhododendron choked it in many places, and a gurgle-size stream wandered back and forth across it as if it had forgotten where its channel was. When we got to the Landing, where the old log slide used to be, we cut up the steep bank to the hogback; and although both of us were puffing by the time we reached the top, Mr. Porter sure didn't look to me like he was about to keel over with a bad heart.

I was acting as if I'd had a few hookers of dandelion wine under my belt. All a ten-year-old prodigy needs is an audience, and this was my day. Looking back now across the years, it seems incredible that it never occurred to me there was anything peculiar about our conversation. It would be logical to assume a boy in the presence of a famous naturalist would try to absorb additional knowledge, but don't bet on it. In this case the one doing the lecturing was the one in knee pants.

We were too late for the hepaticas, the skunk cabbage, bloodroot, and spring beauties; but other flowers were in bloom to take their place. I showed him adderstongues with their mottled leaves, rue anemones, Solomon seals, pipsissewas, columbines, yellow wood violets, and my special favorite, the weird lady's slipper.

"And if you get lost and hungry," I explained, "you go to work and eat sassafras leaves." To demonstrate this life-saving information, I tore several mitten-like leaves from a nearby tree and

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stuffed them in my mouth. "They're good, too."

Mr. Porter smiled and also sampled the leaves, nodding his head in assent.

Then he said a very strange thing.

"Isn't that odd? The leaves are not all the same shape."

"That's sassafras for you," I said. "Some are plain, some have one thumb and some have two—that's the way they grow. But they all taste alike."

We were standing now on the upper end of the hogback just before it merged into the bulk of Thunder Mountain below Bald Knob. Behind us to the northwest stretched a rolling expanse of wooded ridges, below us lay the gap that provided exit for the shimmering waters of Jackpine Creek, and to the east the ponderous Shriner Mountain rose up and began its unbroken march to the distant Susquehanna.

Mr. Porter was looking at his watch for the third time. When he had hauled it out the first time I thought from its shape it was a compass. But then I heard it tick, and who ever heard of a compass that ticked? It even ticked funny for a watch.

He put it away and stared down toward the gap, where the brown tip of the Scorch could be seen through the trees. Something must have been on his glasses, for he took them off and began cleaning them with a handkerchief.

"I never will become used to the brightness of your sun," he said, and I noticed he kept his eyes closed until the glasses were back on his nose. Then he nodded toward Wetzel's Hill.

"Interesting," he said. "What is down there?"

So I had to explain to him all about the Scorch.

"I'd like very much to see it," he said.

"That ain't gonna be easy from here," I said. "You get into a lot of rocks and thorn bushes, and you gotta look out for rattlesnakes. We oughta go all the way back to the house, and around below."

"That would take longer, wouldn't it?"

"Yep, it sure would."

"Then let's try the rocks and thorn bushes," he said.

So we started down, and I have to admit for an old man he sure could handle the rough going. It was no picnic, and I had scratched arms and a tear in my shirt before we reached the bottom. But by some miracle Mr. Porter, who had scrambled down behind me, didn't seem to have a mark on him.

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We stood on Wetzel's Hill, and Mr. Porter drew a line in the powdery dust with the toe of his shoe.

"Strange," he said. He looked at this watch again and I could have sworn it was ticking louder and faster than it had before. "What's that over there?"

"That's the ruins of the old Wetzel place," I said. "Come on, I'll show you."

The dust swirled in eddies as we clumped across the Scorch toward the jumble of charred timbers and foundation stones that marked the tragedy of fifteen years before. We walked halfway around it, and I pointed to what was left of the old cellar hole. Some of the rocks had fallen in, and a rough-hewn beam partially blocked the opening, but I got down on my hands and knees and peered into the darkness.

"Here's my hideout," I said. "It's good and cold in there on a hot day."

"Cold?" he said.

"Like ice," I said. "Ain't much room, but if you want to try and crawl in, I'll show you."

Mr. Porter looked at his clothes and shook his head. "I don't think that will be necessary."

He extended his hand to help me out of the cellar hole, and there was an odd little smile on his lips. "How far is it back to your home?" he asked.

"Don't you want to look for more wildflowers?"

"No, we've had quite a hike today. I'm not a youngster anymore."

"OK," I said, with some disappointment. "I'll show you where the path goes down to the road. Then it's just around the bend."

So we returned to my place, and Mr. Porter talked to my father a while, telling him of some of the things we had seen. Then he thanked me and, winking, slipped a shiny silver dollar into my palm. Wow!

Saying goodby then, he climbed into the old Ford and took off down the road. And that was the last time in my life I was ever to see Mr. Porter, the naturalist from Philadelphia.

And, except for the occasional times my father mentioned his name in the year or two that followed, I have never even thought of him.

Until today.

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Today I heard a word pronounced, and nothing—for me—will ever be quite the same.

I could hear my father's voice again. He was a widely read man but self-educated, and the hallmark of the self-educated is weevily pronunciation. I remember, for instance, a print of "La Cigale" that hung on our living room wall. My father always referred to it as "Lacy Gale." As I grew up and braved the outside world, many were my vocal mannerisms that needed rectifying.

But the word I heard today was the name of a wildflower, one that I have never used or heard used since the day I left the hill country.

The television set was blabbing away—as it usually is in our home, whether anyone is watching or not. The program must have been some sort of nature study. As I passed the screen my ear caught the single word, "Po-LYG-a-la."

This was the word that stopped me in my tracks, that sent worried messengers to probe my memory banks. Its ring was reminiscent of Caligula, the Roman tyrant; but nothing at all in my memory matched its syllables. But though my ear had been tricked, the dictionary revealed the truth of it. "Polygala," it said.

Of course, I thought. In my youth I had called the flower "fringed polly-galla," which you must admit is a far cry from "po-*lyg*-a-la." My father had pronounced it "polly-galla." Why, even Mr. Porter—

With vivid clarity I saw him conversing with my father after our hike. As if it were yesterday I heard his voice: "Columbines we found, and Solomon seals and fringed polly-gallas . . ."

But Mr. Porter was a highly educated man, and nature study was his profession. Would he copy my father's mispronunciation? Unless—

Another memory spurted into my brain: His surprise at the inconsistent shapes of the sassafras leaves. Then, as if they had waited forty years to coalesce, a horde of other memories screamed furiously for attention and new evaluation: The blue lips, the ticking compass, Maggie Gephardt's green ball of fire, the icy cellar hole, Mr. Porter's loss of interest in flowers after we had seen the Scorch . . . and then, thunderingly, what came after.

For something did come after, and never had I dreamed there was a connection. A month must have passed before I next visited my hideout. From above, the cellar hole looked to a casual eye

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just as it had always looked. But when I got down on my belly to crawl under the beam my face knitted into a puzzled frown. The entrance was gone. Timbers and stones had become rearranged somehow, and I wondered if some old black bear had been messing around my hideout. Even the cold air no longer seeped through the crevices, but how a bear could have managed *that* feat didn't bother me then. I got to my feet, kicked some dirt a while, and finally shrugged the whole thing off. I had other hideouts.

But it took the entire valley to shrug off the next wonder. For that fall it began to rain again on Wetzel's Hill, and after fifteen years grass and weeds started growing on the Scorch. It was green the next year, as green as Thunder Mountain. And, for that matter, it's green today.

But for me, suddenly, these are no longer mysteries. I know now that something did fall from the sky that long-ago winter night—an object, a mechanism of unguessable description—and, until someone secretly retrieved it, it lay buried for fifteen years beneath the ruins on Wetzel's Hill. Among its attributes was some form of radiation that could vaporize rain before it reached the ground, a radiation that registered on my companion's "watch," and that my body at close range translated into degrees of cold.

I perceived another attribute: The object was of incalculable importance to someone. The arrival of Mr. Porter so soon after the newspaper story of the Scorch could have been no coincidence. He or "they" must have been searching—perhaps for fifteen years. Ergo, the mechanism must have fallen to earth accidentally. But who, in those days, had any craft that could reach the altitude necessary to produce the scorching velocity of its fall? Surely not our own government. Surely no European or Asiatic power.

With a start I remembered Mr. Porter's words as he cleaned his glasses:

"I will never become used to the brightness of your sun."

Our sun!

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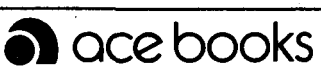

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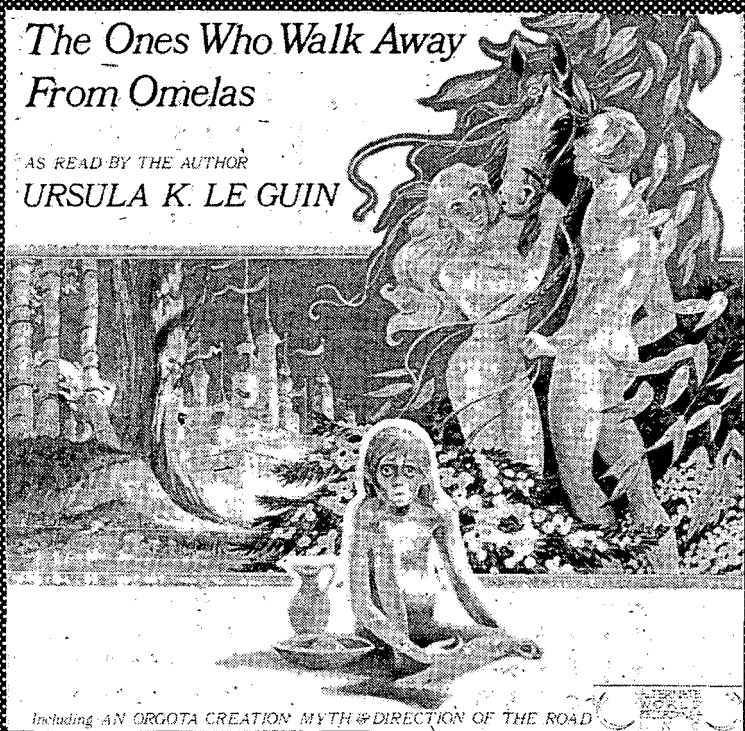
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A SOLUTION TO THE DOCTORS' DILEMMA
(from page 39)

Let 1A stand for the insides of the first pair of gloves, 1B for the outsides. Let 2A stand for the insides of the second pair, 2B for the outsides.

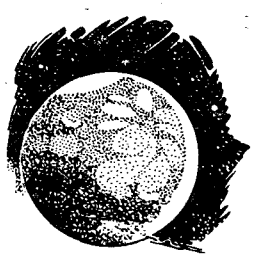
Dr. Xenophon wears *both* pairs, the second on top of the first. Sides 1A and 2B may become contaminated. Sides 1B and 2A remain sterile. Dr. Ypsilanti wears the second pair, with sterile sides 2A touching his hands. Dr. Zeno turns the first pair inside out before putting them on. Sterile sides 1B will then be touching his hands.

After Dr. Zeno finished operating, his nurse, Ms. Frisbie, was furious. "You boneheads ought to be ashamed! You protected yourselves, but forgot about poor Ms. Hooker. If Dr. Xenophon has the flu, Mrs. Hooker could catch it from the gloves you and Dr. Ypsilanti wore."

"Are you suggesting, Ms. Frisbie," asked Dr. Zeno, "that we could have prevented that?"

"That's *exactly* what I'm suggesting."

Then, to Dr. Zeno's amazement, Ms. Frisbie explained how they could have followed another procedure that would have eliminated not only the possibility of the surgeons catching the Barsoomian flu from one another or from Ms. Hooker, but also the possibility of Ms. Hooker catching it from the surgeons. The solution may be found on page 145.



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COMING OF AGE IN HENSON'S TUBE

by William Jon Watkins

Bill Watkins is a 34-year-old Associate Professor at Brookdale Community College in New Jersey, where he teaches the Novel, Science Fiction, Creative Writing, and Poetry. His fourth novel, written with E. V. Snyder, The Litany of Sh'reev, *is due from Doubleday this month. Mr. Watkins's present hobbies are surviving motorcycle crashes and putting his bike back together.*

Lobber ran in shouting like it was already too late. "Keri's gone Skyfalling! Keri's gone Skyfalling!" He was the kind of kid you naturally ignore, so he had to shout *every*thing. I ignored him. Moody didn't. It made no difference. Lobber went right on shouting. "I saw him going up the Endcap with his wings!"

Moody shouted right back. "Why didn't you stop him?!"

"Who?! Me?!! Nobody can stop Keri when he wants to do something. He's crazy!" Lobber was right, of course. Keri *was* crazy; always putting himself in danger for the fun of it, always coming out in one piece. You couldn't stop him. Even Moody couldn't, and Moody was his older brother.

Moody grabbed a pair of Close-ups and started for the door. "He better *not* be Skyfalling! He's too young!"

That almost made me laugh really, because we were *all* too young. But Moody had done it two years ago without getting caught, and I had done it last year. Lobber would never do it. I guess that was why he shouted so much. If you even mentioned it to him, he'd say, "Are you crazy?! You could get killed doing that!"

And he was right about that too. Every couple years, somebody would wait too long to open their wings, or open them too often, and that would be it. Even the lower gravity of Henson's Tube doesn't let you make a mistake like that more than once. My father says he saw his best friend get killed opening up too late,

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and I remember how Keri started crying when Moody came plummeting down out of the air and we thought he'd never open his wings and glide.

Still, when you get to be a certain age in Henson's Tube, you go up the Endcap to the station and hitch a ride on the catchrails of the Shuttle. And when it gets to the middle of the cable, you jump off. It's not all that dangerous really if you open your wings at the right times. The way gravity works in Henson's Tube, or any of the other orbiting space colonies for that matter, makes it a lot less dangerous than doing the same thing on Earth.

The difference in gravity comes from the way Henson's Tube is shaped. It's like a test tube, sealed at both ends. The people all live on the inside walls of the tube, and the tube is spun, like an axle in place, to give it gravity. If you look with a pair of Close-ups, you can see land overhead above the clouds, but the other side of the Tube is five kilometers away, and that's a long way when it's straight up.

If you were born in the Tube like we all were, it doesn't seem unnatural to you to be spun around continually in two-minute circles, and even tourists find it just like Earth, all rocks and trees and stuff, until they look up. Of course, the one half gravity at "ground level" makes them a little nervous, but the real difference in gravity is at the center of the Tube. There's a sort of invisible axle running down the center of the tube lengthwise, where there's no gravity. That's where the Shuttle runs on its cable from one Endcap to the other. And that's where you start your Fall.

You step off the Shuttle halfway along its ride, and you drift very slowly toward one side of the Tube. But pretty soon the ground rotates away, under you, and the wind begins to push you around the center cable too. Only you don't just go around it in a circle, because going around starts giving you some gravity, so you come spiraling down toward the ground, rotating always a bit slower than the Tube itself.

The closer you get to the sides, the faster the Tube—the ground—spins on past you. The gravity depends on how much you've caught up with the rotating of the Tube. If you didn't have wings, you'd hit hard enough to get killed for sure, partly from falling and partly because the ground would be going past so fast when you hit. If you do have wings, then they slow down your fall-

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ing okay, but then they catch the wind more, so you're rotating almost as fast as the Tube is. Only then, because you're going around faster, the gravity is stronger and you have to really use the wings to keep from landing too hard. Only by then you're probably half-way around the Tube from where you wanted to land, and it's a long walk home.

Usually, you just step off the Shuttle and drop with your wings folded until you get scared enough to open your arms. When you do, your wings begin to slow your fall. If you don't wait too long, that is. If you *do* wait too long, when you throw your arms open, they get snapped up and back like an umbrella blowing inside out, and there's nothing left to stop you. Most of the people who get hurt Skyfalling get scared and open their wings too soon or too often. Most of the ones who get killed open their wings too late. Nobody had ever seen Keri get scared.

That was probably what Moody was thinking about as he ran for the door. I know it was what I was thinking about as I grabbed a pair of Close-ups that must have been Keri's and ran after him. Lobber ran after both of us, shouting. By the time we got outside, the silver, bullet-shaped car of the Shuttle was about a third of the way along its cable, and there was nothing to do but wait until it got almost directly above us.

At first, we couldn't see Keri and we thought he must have missed the Shuttle, but then we saw him, sitting on the long catchrail on the underside of the Shuttle with his feet over the side. Lobber kept trying to grab my Close-ups, shouting, "Let me look! Let me look!" I ignored him, but it didn't do any good until Moody grabbed him and said "Shut up, Lobber, just shut up!" Lobber looked like he was going to start shouting about being told to shut up, but the Shuttle was almost directly overhead by then, so he did shut up and watched.

When the Shuttle got where he wanted it, Keri stood up, stopped for a second to pick out his landmarks and then just stepped off. He fell slowly at first, almost directly above us. But soon he began to slide back and away from us in wider and wider spirals as the Tube revolved. For a second, he looked like he was just standing there watching the Shuttle go on down the Tube and us slide away beneath him.

But in a couple seconds he went from being as big as my thumb to being as big as the palm of my hand. We could tell he was rid-

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ing down the pull of gravity at a good speed and getting faster all the time. He had his head into the wind and his body out behind him to cut down his resistance, so the wind wasn't rotating him with it too much, and his speed was going up and up and we knew he'd have to do something soon to cut it down.

When he was half a mile above us, he still hadn't opened his wings. Moody lowered his Close-ups and shook his head like he was sure Keri would never make it. When he looked up again, Keri was a lot closer to the ground, and his blue wings were still folded across his chest. It's hard to tell from the ground how far you can fall before you pass the point where it's too late to open your wings, but it looked to us like Keri had already passed it. And he still hadn't spread his wings.

"Open up!" Moody shouted, "Open up!" And for a little while Keri did just that, until he began to slide back around the curve of the Tube. But long before he should have, he pulled his arms back in and started that long dive again. All Lobber could see was a small fluttering fall of blue against the checkerboard of the far side of the Tube. "He's out of control!" Lobber shouted.

He was wrong, of course. For some crazy reason of his own, Keri had done it on purpose, but when I went to tell Lobber to shut up, I found that my mouth was too dry to talk. It didn't matter, because Lobber went suddenly quiet. Moody stood looking up through his Close-ups and muttering, "Open up, Keri! Open up!"

It seemed like an hour before Keri finally did. You could almost hear the flap of the blue fabric as he threw his arms open. His arms snapped back, and for a minute, I thought he was going to lose it, but he fought them forward and held them out steady.

But it still looked like he had waited too long. He was sliding back a little, but he was still falling, and falling fast. I could see him straining against the force of his fall, trying to overcome it, but I didn't think he was going to make it.

I didn't want to follow him in that long fall all the way into the ground. I thought about how my father said his friend had looked after he hit, and I knew I didn't want to see Keri like that. But just before I looked away, Keri did the craziest thing I ever saw. Falling head down with his arms out, he suddenly jack-knifed himself forward, held it for a second, then snapped his head up and spread-eagled himself. His wings popped like a billowbag opening up.

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Moody gave a little gasp and I felt my own breath suck in. But it turned out that Keri knew more about Skyfalling than either of us ever would and when he threw his arms back, he had almost matched ground speed and the maneuver had put him into a stall so close to the ground that I still don't believe it was possible.

Of course, Keri being Keri, he held his wings out just a fraction too long, and he went up and over before he could snap his arms down completely and came down backward. You could almost hear the crunch when he hit. I swear he bounced and flipped over backwards and then bounced and rolled over four more times before he stopped. For a second we just stood there, too stunned to move, and then we were suddenly all running toward him, with Moody in the lead.

When we got to Keri, he was sitting up, unsnapping his wings and rubbing his shoulders. His arms were a mess, all scraped and scratched, but not broken. Even though he had a helmet on, one eye was swollen shut. But he was smiling.

Moody got to him first and helped him up. "You're crazy, Keri! You know that?! You could have got yourself killed! You know that?! You know that?!" I don't think I ever remember Moody being that mad. He sounded like his father. "Look at you! You're lucky you didn't get killed!"

But Keri just kept grinning and the louder Moody got, the wider Keri grinned until Moody just turned away in disgust. Nobody said anything for a while, not even Lobber. Finally Keri said, "C'mon, Moody, I didn't act like that when *you* came down."

Moody turned around and looked at his brother like he knew Keri was right, but he wasn't ready yet to forgive him for scaring us like that. "Yeah, but I didn't wait until I almost hit the ground before I opened up! I didn't scare anybody half to death thinking I was going to get myself killed!"

Keri looked at him and chuckled. "Didn't you?"

"That wasn't the same!" Moody said. But you could tell he knew it was. Finally, he grabbed Keri's wings. "Here, give me those before you tear them."

Keri laughed and handed him the wings. He gave me a wink with his good eye. "Not easy being on the ground. Is it?" I shook my head. Moody just snorted and folded the wings. I kept waiting for Lobber to start shouting again, but he didn't. He just looked up at where the Shuttle had passed, and when he spoke, his voice

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was wistful and quiet like he knew Skyfalling was something he would never be able to do, no matter how much he might want to. "What does it feel like, Keri?" he said.

Keri shrugged, and I knew it was because there is something in the Fall, something about the way it gets faster and faster, and the ground rushes up at you like certain death, that he couldn't explain. I could see the freedom of it still sparkling in his eyes. "It feels like being alive."

A SECOND SOLUTION TO THE DOCTORS' DILEMMA

(from page 139)

Dr. Xenophon wears both pairs of gloves. Sides 1A and 2B may become contaminated, while 1B and 2A remain sterile.

Dr. Ypsilanti wears the second pair, with sterile sides 2A against his hands.

Dr. Zeno turns the first pair inside out and then puts them on with sterile sides 1B against his hands. Then he puts on the second pair, with sides 2A over sides 1A and sides 2B outermost.

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There were 890 science fiction books published in 1975, of which 411 were originals and 479, reprints. The year 1976, only half over as I write this column, will probably have just as many. Obviously, there's no way to discuss all of these books or even to mention them, so a short introduction on how I will run this column seems to be in order.

First, this is a review column, not a critical one. Its purpose is to recommend books worth your time and money. Hence, there won't be any long killer reviews (even though they're the easiest and most fun to write) of bad books. However, I don't plan to write all sweetness and light; some seriously flawed books are still very enjoyable and successful, and some are fascinating attempts which nevertheless failed. Most important, I hope to cover a *lot* of books, especially in this first column, which is a summary of the first six months of 1976.

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Two straight SF novels were best sellers so far this year: *Imperial Earth,* by Arthur C. Clarke, and *Children of Dune,* by Frank Herbert. Both sold tens of thousands of hardcover copies—rare phenomena in science fiction publishing indeed.

Children of Dune is the third and last volume in the "Dune" series. It's a much better (and much longer) book than the second in the series, *Dune Messiah*, and is a return to the original world of *Dune* with its sandworms, ecology background, and adventure. Unfortunately, the book suffers the usual fate of sequels: it's nowhere as good as the original, nor does it stand by itself. Still, it's a must for those of you who were excited by the first book of the series.

Imperial Earth struck me as a much better book, although I

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was a bit disappointed by it. The story takes place in 2276, and is mostly about the quincentennial of the United States. The book is divided into three main sections: the first shows an interesting and believable settlement on Titan, explaining logically why it's there and nowhere else in the Solar System; the second covers a space-liner trip from Titan to Earth; and the third is a guided tour of a future, near-utopian Earth. Clarke's background descriptions and extrapolative touches are, as usual, nearly perfect and utterly fascinating. His picture of life 300 years from now is extremely believable. The weakness of the book is one which is common to most utopian literature: the characters and plot are secondary, and thus neither is strong. Also, I just can't see how to get there from here.

Man Plus, by Frederik Pohl, concerns the more immediate future, with the world heading for nuclear disaster. Since computer predictions show that colonizing Mars is one of the few options open to mankind, the United States government is changing a man into a cyborg so that he can live on Mars without external help. This book is a strong novel of character, not action, as Roger Torraway emotionally changes from a nebbish to a person and finally to something more. It's very effective, Pohl's best novel to date. As with any good novel, there's more to it than meets the eye, and the surprises are both logical and well handled. The only thing wrong with the book is that it has an idiot plot! The actual colonization is being done by normal people with mechanical backup, not by cyborgs. Our hero is certainly useful for exploration and for helping others, but he is not really essential to the colonization effort as the story's beginning leads you to believe. Read it and make your own decision.

My favorite novel so far this year is *Where Late the Sweet Birds Sang*, by Kate Wilhelm. The first section of this appeared as a novella in 1974; but despite this, the work is a real novel and not just three connected novellas. Part One concerns the breakdown of our civilization due to pollution, plague, and sterility. A group of people who prepared for the worst manages to survive in a hidden valley by using cloning to produce both people and animals. The clones turn out to be quite different than expected and produce their own brand of interdependent civilization in Part Two. Part Three deals with the final clash between two different ways of life. All three sections are handled superbly and are filled with

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exciting ideas as well as the excellent characterization which is a Wilhelm trademark. There have been at least five science fiction books about cloning so far this year, but none of them comes even close to the Wilhelm book for interest or excitement.

Cloned Lives, by Pamela Sargent, is probably a better description of what clones will really be like. At first, the five clones are very similar. Then, like identical twins, they develop their own personalities and solve—or don't solve—their own problems. The book is divided into seven sections: the first (and best) covers the clones' conception and beginnings, followed by one section about each clone's development, and finally an overview. In somewhat different form, individual sections have appeared in various anthologies and magazines before and were quite successful that way. Unfortunately, the sections do not successfully coalesce into a novel.

Since I'm a mystery story reader as well as a science fiction reader, I get double pleasure when the two forms are combined well. *The Long Arm of Gil Hamilton*, by Larry Niven, and *My Name Is Legion*, by Roger Zelazny, are very similar books. Each contains three novellas with a detective as a central character. Zelazny's is a nameless, wise-cracking private eye who plies his trade in a computer-run society, while Niven's is a government operative working against the background of organleggers and other fascinating pieces of the "Known Space" series. Niven is a better whodunit writer and Zelazny falls more into the hardboiled school, but both are interesting. I recommend both.

The Word for World Is Forest, by Ursula K. LeGuin, isn't exactly a new book. It appeared in 1972 in Harlan Ellison's anthology, *Again, Dangerous Visions*, and won the novella Hugo award the following year. This handsome Berkley/Putnam edition is the story's first independent publication. The story takes place on an alien planet being exploited by big, bad Earthmen. Alternate sections are written from the human and from the alien points of view. The alien sections are excellent and thought-provoking, but the human sections are stereotyped and preachy. It is not one of LeGuin's best, but still very readable.

For a change of pace, try *The Space Machine*, by Christopher Priest, a 'scientific romance' written in the spirit and style of H. G. Wells. Unlike most of the other pseudo-Victorian SF which has been appearing lately, Priest doesn't play it strictly for laughs, al-

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though his tone is light. The backgrounds from *The Time Machine, War of the Worlds,* and the story "The Crystal Egg" have been smoothly combined; and Wells himself has become an interesting character in this well-written narrative.

The biggest joy in reviewing books is to come across something very good but obscure. My 'discovery' this year is Jean Karl's *The Turning Place*, subtitled *Stories of a Future Past*. Although packaged as a juvenile collection of science fiction stories, it's actually a novel, since each story builds upon the one before it. In the first story, an alien race destroys civilization and nearly wipes out humanity. Each successive story, set several generations later, shows how people have changed, adapted, and set up a new social order which is better than the old one. Some stories are straight juveniles, others are not—especially the later, complex ones. The quality of the writing, as with most juveniles, is quite good.

I was able to finish and appreciate—although not exactly enjoy—Samuel Delany's newest novel, *Triton*. It has traces of a plot and is much shorter than his previous work, *Dhalgren*, although it's still very long by today's standards. In this and in *Dhalgren*, Delany is so close to his characters and their surroundings that you can see what they see and feel what they feel if you're at all sympathetic to the people involved. The 'if' is the kicker, though. Unlike Sturgeon, who can make the most insane character lovable, Delany fails at this as far as I'm concerned. I appreciate what he is trying to do, but I couldn't get involved.

I don't think it's pure coincidence that Phyllis Gotlieb's novel, *O Master Caliban!*, has a lead character named Dhalgren and takes place on Dhalgren's world. In both style and content it reminds me strongly of the earlier Delany. There is a charming, innocent hero with four arms, inimical machines, a partially radioactive world, a quest, and some characters with strange powers. I had a lot of fun reading this one.

Jack Vance is always fun to read; and his newest, *Maske: Thaery*, is no exception. It's another exploration of a strange world in the Gaean Reach, similar to, but not the same as, the other books in the series, which were *Trullion: Alastor 2262*, then *Marune: Alastor 933*, and third *The Grey Prince*. Like the first two, *Maske: Thaery* is more a comedy of manners set against a baroque background than a straightforward adventure story. Vance's recent books have been virtually plotless, but I don't

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mind. My fascination is with the characters and the background.

The Shattered Chain, by Marion Zimmer Bradley, is the latest in her Darkover series. This series began as juvenile adventure in the Andre Norton tradition, but lately has become much more, with better characterization, more complex backgrounds, and believable motivations. *The Shattered Chain* is not quite up to the previous book in the series, *The Heritage of Hastur*, but it comes close. Unlike other series, the order in which you read these books is not important. Recommended.

Dragonsong, by Anne McCaffrey, is another novel in her very popular Dragonflight series. It isn't actually a sequel to the earlier books but is sort of a side-bar juvenile taking place concurrently with *Dragonflight* and *Dragonquest*. It's simpler than the other two and more smoothly written. I enjoyed it even more than *Dragonquest* and *A Time When*. If you're a fan of McCaffrey's Dragon series, this is a must. If you're unfamiliar with the series, this one is a good start.

Larry Niven's *A World out of Time* is a quasi-novel cobbled together out of three stories with a common hero: "Rammer," "Down and Out," and "Children of the State." It follows the adventures of Jerome Branch Corbell (!) from his beginning as a corpsicle, through his revival in a new body, to his job as a spaceship pilot, and finally to his exploration of a far-future Earth. Niven is the best hard-science short-story writer working in the field today. Taken individually, all these stories are very good; but as a novel, the book lacks an integrated plot and a hero who acts as well as reacts. This doesn't mean that it isn't a good book (for it is), but Niven is such a superior writer that I expect more from him than from others.

I've been talking strictly about novels up to now because they're the most popular type of science fiction, although not necessarily the best written. The short story is sometimes ideal for SF because it allows the author to explore a single idea without going too deep into characterization—the hardest thing to do well in this field. There are not one, not two, but *three* different series of single-author, short-story collections being published today under the title of *The Best of* . . . . All range from very good to excellent, and I can recommend them without exception. The ones put out by Sphere in England are all edited by Angus Wells. They include *The Best of Frank Herbert, The Best of Arthur C. Clarke*

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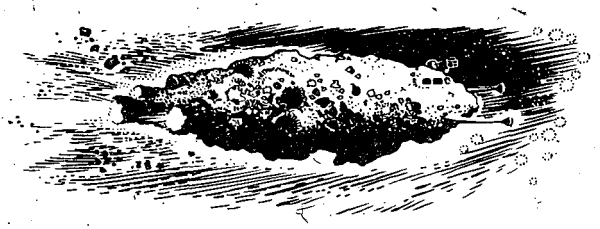
(with several stories never before collected!), *The Best of Clifford Simak*, and others. They are representative collections and include—as do the other series—early stories, middle stories, and recent stories; but no publisher would dare title a book *The Representative Stories of* . . . The Sphere editions each has a new introduction by its author plus a useful bibliography of first editions. Of the Ballantine and SF Book Club series, most are edited by Lester del Rey, with an introduction by del Rey plus an afterword by the author in each book. The series from Pocket Books is put together by the authors themselves; each volume has introductions to *each* story as well as a general introduction, plus an appreciation by Barry Malzberg. This series so far includes *The Best of Robert Silverberg, The Best of Jack Vance*, and *The Best of Poul Anderson*.

I've saved my favorite for last here: Berkley/Putnam has published *The Light Fantastic* and *Star Light, Star Bright*, a two-volume set of the short fiction of Alfred Bester, with new, long introductions to each story. Even though I'd read all the stories before and remembered most of them, Bester's introductions were so interesting that I found myself re-reading each one with new insight and enjoyment. This set is easily the best collection of the year.

Finally, there is a new book from Harper & Row that is an absolute must for anyone interested in writing science fiction or just reading about how it's done. *The Craft of Science Fiction*, edited by Reginald Bretnor, is a symposium on writing science fiction, with material by its top authors, including Niven, Anderson, Pohl, Herbert, Ellison, and Sturgeon. A splendid book!



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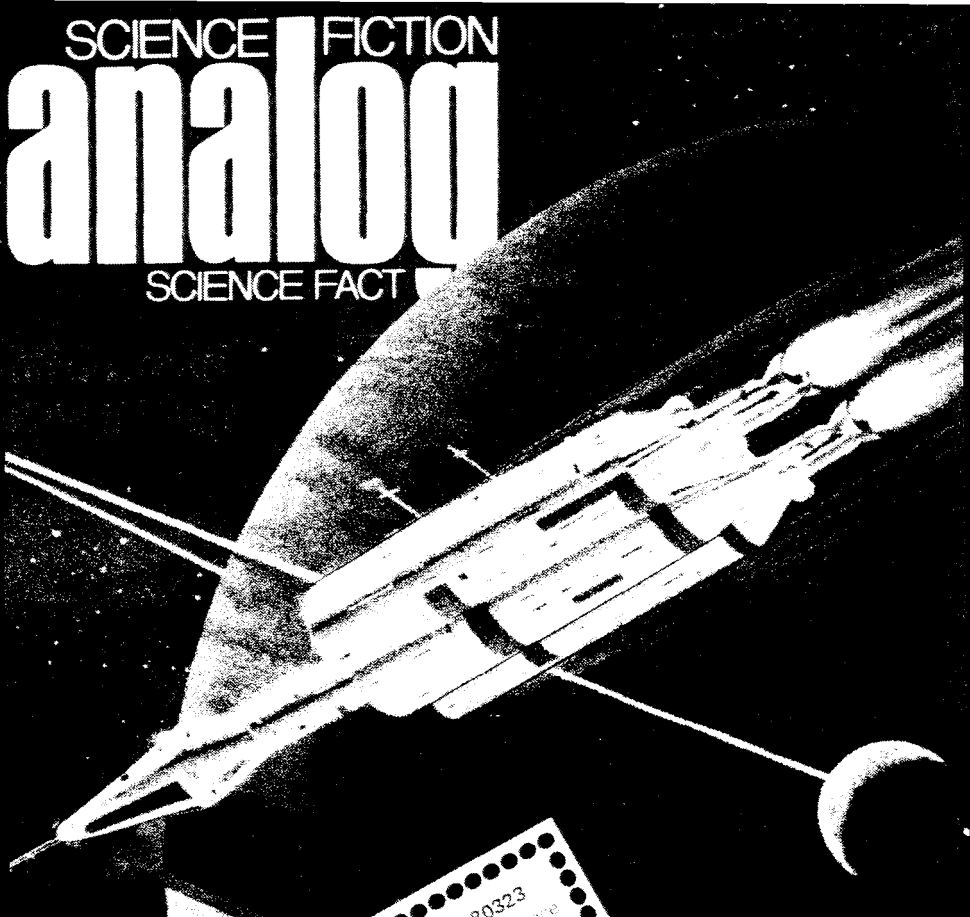

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REVIEWS OF NEW BOOKS

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For this volume, which has never before been illustrated, the publisher has enlisted Tim Kirk, who has provided 13 full page scenes from Dunsany's Lands of Dream.

SCIENCE FICTION HANDBOOK, REVISED, by L. Sprague de Camp & Catherine de Camp. Owlswick Press, $8.50.

"This may well be the best how-to book ever published for writers of any kind. It is certainly far and away the best for writers of science fiction and fantasy. Newcomers will find it indispensable, old hands hardly less valuable, while to the general reader it will give a fascinating behind-the-scenes look at the profession."—Poul Anderson

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TIME STORM
by Gordon R. Dickson

The author was born in Canada in 1923. He attended the University of Minnesota before and after W.W. II, with a break for Army service; since 1950 he has been a full time writer. Mr. Dickson has sold over 150 short stories and 40 books. In addition to Time Storm, *his current book projects include* The Far Call, *the story of a 1980 expedition to Mars.*

The leopard—I called him Sunday, after the day I found him—almost never became annoyed with the girl, for all her hanging on to him. But he was only a wild animal, after all, and there were limits to his patience.

What had moved me to pick up first him, then her, was something I asked myself often without getting a good answer. They were nothing but encumbrances and no concern of mine. My only concern was getting to Omaha and Swannee. Beyond that point there was no need for me to think. But—I don't know. Somehow out of the terrible feeling of emptiness that I kept waking up to in the mornings, I had gotten a notion that in a world where nearly all the people and animals had vanished, they would be living creatures I could talk to. 'Talk to,' however, had turned out to be the working phrase; because certainly neither of them were able to talk back. Crazy cat and speechless girl—and with them, myself, who before had always had the good sense never to need anybody, dragging them both along with me across a landscape as mixed up and insane as they were.

This time, the trouble erupted just as I pushed the panel truck over a rise in late summer wheat country which I figured had once been cornland, a little below the one-time northern border of Iowa. All the warning I heard was a sort of combination meow-snarl. Not a top-pitch, ready-to-fight sound; but a plain signal that Sunday had had enough of being treated like a stuffed animal and wanted the girl to leave him alone. I braked the panel sharply to a stop on the side of the empty, two-lane asphalt road,

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and scrambled over the seat backs into the body of the truck.

"Cat!" I raved at him. "What the hell's got into you now?"

But of course, having said his piece and already gotten her to let him go, Sunday was now feeling just fine. He lay there, completely self-possessed, cleaning the fur on the back of his right forepaw with his tongue. Only, the girl was huddled up into a tight little ball that looked as if it never intended to come unwound again; and that made me lose my temper.

I cuffed Sunday; and he cringed, putting his head down as I crawled over him to get to the girl. A second later I felt his rough tongue rasping on my left ankle in a plea for forgiveness—for what he did not even understand. And that made me angry all over again, because illogically, now, I was the one who felt guilty. He was literally insane where I was concerned. I knew it; and yet I had taken advantage of that to knock him around, knowing I was quite safe in doing so when otherwise he could have had my throat out in two seconds as easy as yawning.

But I was only human myself, I told myself; and here I had the girl to unwind again. She was still in her ball, completely unyielding, all elbows and rigid muscle when I put my hands on her. I had told myself I had no real feeling for her, any more than I had for Sunday. But somehow, for some reason I had never understood, it always damn near broke my heart when she went like that. My younger sister had had moments of withdrawal something like that—before she grew out of them. I had guessed her to be no more than fifteen or sixteen, at the most, and she had not said a word since the day I found her wandering by the road. But she had taken to Sunday from the moment I had led her back to the truck and she first laid eyes on him. Now, it was as if he was the only living thing in the world for her; and when he snarled at her like that, it seemed to hit her like being rejected by everyone who had ever loved her, all at once.

I had been through a number of crises like this one with her before—though the others had not been so obviously Sunday's fault—and I knew that there was nothing much to be done with her until she began to relax. So I sat down and wrapped my arms around her, cuddling her as close as her rigidness would allow, and began to try to talk her out of it. The sound of my voice seemed to help, although at that time she would never show any kind of direct response to it, except to follow orders.

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So there I sat, on the mattresses and blankets in the back of the panel truck, with my arms around her narrow body that was more sharp bones than anything else, talking to her and telling her over and over again that Sunday wasn't mad at her, he was just a crazy cat and she should pay no attention when he snarled, except to leave him alone for a while. After a while I got tired of repeating the same words and tried singing to her—any song that I could remember. I was aware it was no great performance. I may have believed at that time that I was hell on wheels at a number of things, but I knew singing was not one of them. I had a voice to scare bullfrogs. However, that had never seemed to matter with the girl. It was keeping up the human noise and holding her that helped. Meanwhile, all the time this was going on, Sunday had crept up as close to us as he could and had his forepaws around my left ankle, his forehead butted against my knee.

So, after a while, illogically, I reached down and patted his head, which he took as forgiveness. I was a complete fool for both of them, in some ways. Shortly after that, the girl began to stir. The stiffness went out of her. Her arms and legs extended themselves; and without a word to me she pulled away, crawled off and put her arms around Sunday. He suffered it, even licking at her face with his tongue. I unkinked my own cramped muscles and went back up front to the driver's seat of the truck.

Then I saw it, to the left of the highway. It was a line of sky-high mist or dust-haze, less than a couple of hundred yards away, rolling down on us at an angle.

There was no time for checking on the two back there to see if they were braced for a racing start. I jammed the key over, got the motor started, and slammed the panel into motion down the narrow asphalt lane between the brown-yellow of the standing wheat, now gently wind-rippled by the breeze that always preceded a mistwall, until the plant-tops wavered into varying shades of gold.

No mistwall I had seen, with the time-change line its presence always signalled, had ever moved faster than about thirty miles an hour. That meant that unless this one was an exception, theoretically any car in good working order on a decent road should have no trouble outrunning it. The difficulty arose, however, when—as now—the mistwall was not simply coming up be-

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hind us, but moving in at an angle flanking the road. I would have to drive over half the length of the wall or more—and some mistwalls were up to ten miles long—to get out of its path before it caught us, along with everything else in its way. I held the pedal of the accelerator to the floor and sweated.

According to the needle on the speedometer, we were doing nearly a hundred and ten—which was nonsense. Eighty-five miles an hour was more like the absolute top speed of the panel truck. As it was, we swayed and bounced along the empty road as if five more miles an hour would have sent us flying off it.

I could now see the far end of the mistwall. It was a good two or three miles away, yet; and the wall itself was only a few hundred yards off and closing swiftly. I may have prayed a little bit at this point, in spite of being completely irreligious. I seem to remember that I did. In the weeks since the whole business of the time changes started, I had not been this close to being caught since that first day in the cabin northwest of Duluth, when I had in fact been caught without knowing what hit me. I had thought then it was another heart attack, come to carry me off for good this time; and the bitterness of being chopped down before I was thirty and after I had spent nearly two years putting myself into the best possible physical shape, had been like a dry, ugly taste in my throat just before the change line reached me and knocked me out.

I remember still thinking that it was a heart attack, even after I came to. I had gone on thinking that way, even after I found the squirrel that was still in shock from it; the way Sunday had been later, when I found him. For several days afterwards, with the squirrel tagging along behind me like some miniature dog until I either exhausted it or lost it, I did not begin to realize the size of what had happened. It was only later that I began to understand, when I came to where Duluth should have been and found virgin forest where a couple of hundred thousand people had lived; and later yet, as I moved south and stumbled across the log cabin with the bearded man in cord-wrapped leather leggings.

The bearded man had nearly done for me. It took me almost three minutes too long after I met him to realize that he did not understand that the rifle in my hand was a weapon. It was only when I stepped back and picked up the hunting bow, that he pulled his fancy quick-draw trick with the axe he had been using to

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chop wood when I stepped into his clearing. I never saw anything like it and I hope I never see it again, unless I'm on the side of the man with the axe. It was a sort of scimitar-bladed tool with a wide, curving forward edge; and he had hung it on his shoulder, blade-forward, in what I took to be a reassuring gesture, when I first tried to speak to him. Then he came toward me, speaking some kind of Scandinavian-sounding gibberish in a friendly voice, the axe hung on his shoulder as if he had forgotten it was there.

It was when I began to get worried about the steady way he was coming on and warned him back with the rifle, that I recognized suddenly that apparently, as far as he was concerned, I was carrying nothing more than a club. For a second I was merely paralyzed by the enormity of that insight. Then, before I could bring myself to shoot him after all in self-defense, I had the idea of trying to pick up the bow with my free hand. As an idea, it was a good one—but the minute he saw the bow in my hand he acted; and to this day I'm not sure exactly how he did it.

He reached back at belt-level and jerked forward on the handle-end of the axe. It came off his shoulder—spinning, back, around, under his arm, up in the air and over, and came down incredibly with the end of its handle into his fist and the blade edge forward.

Then he threw it.

I saw it come whirling toward me, ducked instinctively and ran. I heard it thunk into a tree somewhere behind me; but by then I was into the cover of the woods and he did not follow.

Five days later I was where the twin cities of Minneapolis and St. Paul had been—and they looked as if they had been abandoned for a hundred years after a bombing raid that had nearly leveled them to the ground. But I found the panel truck there, and it started when I turned its key. There was gas in the filling station pumps, though I had to rig up a little kerosene generator I liberated from a sporting goods store, in order to pump some of it into the tank of the truck, and I headed south along U.S. 35W. Then came Sunday. Then came the girl.

—I was almost to the far end of the mistwall now, although to the left of the road the haze was less than a hundred yards from the roadway, and little stinging sprays of everything from dust to fine gravel were beginning to pepper the left side of the panel, including my own head and shoulder where the window on that side

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was not rolled up. But I had no time to roll it up now. I kept pushing the gas pedal through the floor, and suddenly we whipped past the end of the wall of mist and I could see open country clear to the summer horizon.

Sweating, I eased back on the gas, let the truck roll to a stop, and half-turned it across the road so I could look behind us.

Back where we had been, seconds before, the mist had already crossed the road and was moving on into the fields that had been on the road's far side. They were ceasing to be there as it passed—as the road itself had already ceased to be, as well as the farm land on the near side of the road. Where the grain had rippled in the wind, there was now wild, grassy hillside—open country sparsely interspersed with a few clumps of trees, rising to a bluff, a crown of land, less than a quarter of a mile off, looking so close I could reach out and touch it. There was not a breath of wind stirring.

I put the panel back in gear again and drove off. After a while the road swung in a gentle curve toward a small town that looked as normal as apple pie, as if no mistwall had ever passed through it. It could be, of course. My heart began to pound a little with hope of running into someone sane I could talk with, about everything that had happened since that apparent heart attack of mine in the cabin.

But when I drove into the main street of the town, between the buildings, there was no one in sight; and the whole place seemed deserted. Hope evaporated into caution. Then I saw what seemed to be a barricade across the street up ahead; and a single figure crouched behind it with what looked like a rocket launcher on his shoulder. He was peering over the barricade away from me, although he must have heard the sound of the motor coming up the street behind him.

I pulled the truck into an alley between two stores and stopped it.

"Stay here and stay quiet," I told the girl and Sunday.

I took the carbine from beside my driver's seat and got out. Holding it ready, just in case, I went up behind the man crouched at the barricade. Up this close I could see easily over the barricade—and sure enough, there was another mistwall, less than a mile away, but unmoving. For the first time since I had come into the silent town, I became conscious of a steady sound.

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It came from somewhere up ahead, beyond the point where the straight white concrete highway vanished into the unmoving haze of the mistwall—a small buzzing sound, like the sound of a fly in an enclosed box on a hot July day such as this one was.

"Get down," said the man with the rocket launcher.

I pulled my head below the top line of the makeshift barricade—furniture, rolls of carpeting, cans of paint—that barred the empty street between the gritty sidewalks and the unbroken store windows in the red brick sides of the Main Street building. Driving in from the northwest, I had thought at first that this small town was still living. Then, when I got closer, I had guessed it was one of those places, untouched but abandoned, such as I had run into further north. And so it was, in fact; except for the man, his homemade barricade, and the rocket launcher.

The buzzing grew louder. I looked behind me, back down the Main Street. I could just make out the brown, left front fender of the panel truck, showing at the mouth of the alley into which I had backed it. There was no sound or movement from inside it. The two of them in there would be obeying my orders, lying still on the blankets in the van section, the leopard probably purring a little in its rough, throaty way and cleaning the fur of a forepaw with its tongue, while the girl held to the animal for comfort and companionship, in spite of the heat.

When I looked back through a chink in the barricade, there was something already visible in the road. It had evidently just appeared out of the haze, for it was coming very fast. Its sound was the buzzing sound I had heard earlier, now growing rapidly louder as it raced toward us, the thing itself seeming to swell up in size like a balloon being inflated against the white backdrop of the haze.

It came so fast that there was only time to get a glimpse of it. It was yellow and black in color, like a wasp; a small gadget with an amazing resemblance to a late model compact car, but half the size of such a car, charging at us down the ruler-straight section of highway like some outsize wind-up toy.

I jerked up my rifle; but at the same time the rocket launcher went off beside me with a flat clap of sound. The rocket was slow enough so that we could see it like a black speck, curving through the air to meet the gadget coming at us. They met and there was an explosion. The gadget hopped up off the road shedding parts

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which flew toward us, whacking into the far side of the barricade like shrapnel. For a full minute after it quit moving, there was no sound to be heard. Then the whistling of birds and the trilling of crickets took up again.

I looked over at the rocket launcher.

"Good," I said to the man. "Where did you get that launcher, anyway?"

"Somebody must have stolen it from a National Guard outfit," he said. "Or brought it back from overseas. I found it with a bunch of knives and guns and other things, in a storeroom behind the town police office."

He was as tall as I was, a tight-shouldered, narrow-bodied man with a deep tan on his forearms below the rolled sleeves of his check shirt, and on his quiet, bony face. Maybe a little older than I was; possibly in his late thirties. I studied him, trying to estimate how hard it would be to kill him if I had to. I could see him watching me, doubtless with the same thought in mind.

It was the way things were, now. There was no shortage of food or drink, or anything material you could want. But neither was there any law, any more—at least, none I'd been able to find in the last three weeks.

To break the staring match, I deliberately looked away to the gadget, lying still now beyond the barricades, and nodded at it.

"I'd like to have a look at it close up," I said. "Is it safe?"

"Sure." He got to his feet, laying down the rocket launcher. I saw, however, he had a heavy revolver—possibly a .38 or .45—in a holster on the hip away from me; and a deer rifle carbine like mine was lying against the barricade. He picked it up in his left hand.

"Come on," he said. "They only show up one at a time, a little over six hours apart."

I looked down the road. There were no other wrecked shapes in black and yellow in sight along it.

"You're sure?" I said. "How many have you seen?"

He laughed, making a dry sound in his throat like an old man.

"They're never quite stopped," he said. "Like this one. It's harmless, now, but not really done for. Later it'll crawl back, or get pulled back behind the mist over there—you'll see. Come on."

He climbed over the barricade and I followed him. When we got to the gadget it looked more than ever like an overlarge toy

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car—except that where the windows should be, there was a flat yellow surface; and instead of four ordinary sized wheels with tires, the lower halves of something like sixteen or eighteen small metal disks showed through the panel sealing the underbody. The rocket had torn a large hole in the gadget's side.

"Listen," said the man, stooping over the hole. I came close and listened myself. There was a faint buzzing, still going on down there someplace inside it.

"Who sends these things?" I said. "Or what sends them?"

He shrugged.

"By the way," I said, "I'm Marc Despard." I held out my hand.

He hesitated.

"Raymond Samuelson," he said.

I saw his hand jerk forward a little, then back again. Outside of that, he ignored my own, offered hand; and I let it drop. I guessed that he might not want to shake hands with a man he might later have to try to kill; and I judged that anyone who worried about a nicety like that was not likely to shoot me in the back, at least unless he had to. At the same time, there was no point in asking for trouble by letting any misunderstandings arise.

"I'm just on my way through to Omaha," I said. "My wife's there, if she's still all right. But I'm not going to drive right across that time-change line out there if I've got a choice." I nodded at the haze from which the gadget had come. "Have you got any other roads leading south or east from the town?"

"Yes," he said. He was frowning. "Did you say your wife was there?"

"Yes," I answered. For the life of me, I had meant to say "ex-wife," but my tongue had slipped; and it was not worth straightening the matter out now for someone like Samuelson. "Look," he said, "you don't have to go right away. Stop and have dinner."

Stop and have dinner. Something about my mentioning a wife had triggered off a hospitality reflex in him. The familiar, homely words he spoke seemed as strange and out of place, here between the empty town and the haze that barred the landscape to our right, as the wrecked gadget at our feet.

"All right," I said.

We went back, over the barricade and down to the panel truck. I called to the leopard and the girl to come out and introduced

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them to Samuelson. His eyes widened at the sight of the leopard, but they opened even more at the sight of the girl behind the big cat.

"I call the leopard 'Sunday'," I said. "The girl's never told me her name."

I put out my hand and Sunday stepped forward, flattening his ears and rubbing his head up under my palm with a sound that was like a whimper of pleasure.

"I came across him just after a time change had swept the area where he was," I said. "He was still in shock when I first touched him; and now I've got his soul in pawn, or something like that. You've seen how animals act, if you get them right after a change before they come all the way back to being themselves?"

Samuelson shook his head. He was looking at me now with some distrust and suspicion.

"That's too bad," I said. "Maybe you'll take my word for it, then. He's perfectly safe as long as I'm around."

I petted Sunday. Samuelson looked at the girl.

"Hello," he said, smiling at her. But she simply stared back without answering. She would do anything I set her to doing, but I had never been able to make her seem conscious of herself. The straight, dark hair hanging down around her shoulders always had a wild look; and even the shirt and jeans she was wearing looked as if they did not belong to her.

They were the best of available choices, though. I had put her into a dress once, shortly after I had found her; and the effect had been pitiful. She had looked like a caricature of a young girl in that dress.

"She doesn't talk," I said. "I came across her a couple of days after I found the leopard, about two hundred miles south. The leopard was about where the Minneapolis-St. Paul area used to be. It could have come from a zoo. The girl was just wandering along the road. No telling where she came from."

"Poor kid," said Samuelson. He evidently meant it; and I began to think it even more unlikely that he would shoot me in the back.

We went to his house, one block off the Main Street, for dinner.

"What about the—whatever-you-call-them?" I asked. "What if one comes while you aren't there to stop it?"

"The Buzzers," he said. "No, like I told you, they don't run on

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schedule, but after one's come by, it's at least six and a half hours before the next one. It's my guess there's some kind of automatic factory behind the mist there, that takes that long to make a new one."

Samuelson's house turned out to be one of those tall, ornate, late-nineteenth century homes you still see in small towns. Two stories and an attic with a wide screen porch in front and lilac bushes growing all along one side of it. The rooms inside were small, dark and high-ceilinged, with too much furniture for their floorspace. He had rigged a gas motor and a water tank to the well in his basement that had formerly been run by an electric pump; and he had found an old, black, wood-burning stove to block up in one corner of his spacious kitchen. The furniture was clean of dust and in order.

He gave us the closest thing to a normal meal that I'd eaten—or the girl had, undoubtedly—since the time storm first hit Earth. I knew it had affected all the Earth, by this time; not just the little part west of the Great Lakes in North America where I was. I carried a good all-bands portable radio along; and once in a while picked up a fragment of a broacast from somewhere. The continuity—or discontinuity—lines dividing the time areas usually blocked off radio. But sometimes things came through. Hawaii, evidently, was unique in hardly having been touched, and I'd occasionally heard bits of shortwave from as far away as Greece. Not that I listened much. There was nothing I could do for the people broadcasting, any more than there was anything they could do for me.

I told Samuelson about this while he was fixing dinner; and he said he had run into the same thing with both the short-wave and long-wave radios he had set up. We agreed that the storm was not over.

"We've only had the one time change here in Saulsburg, though," he said. "Every so often, I'll see a line of change moving across country off on the horizon, or standing still for a while out there; but so far, none's come this way."

"Where did all the people go, that were in this place?" I asked.

His face changed, all at once.

"I don't know," he said. Then he bent over the biscuit dough he was making, so that his face was hidden away from me. "I had to drive over to Peppard—that's the next town. I drove and drove

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and couldn't find it. I began to think I was sick or crazy, so I turned the car around and drove home. When I got back here, it was like you see it now."

It was clear he did not want to talk about it. But I could guess some of what he had lost from the house. It had been lived in by more than one adult, and several children. There were a woman's overshoes in the front closet, toys in a box in one corner of the living room, and three bicycles in good condition in the garage.

"What did you do for a living?" he asked me after a moment.

"I was retired," I said.

He frowned over that, too. So I told him about myself. The time storm had done nothing in my case to leave me with things I did not want to talk about, except for the matter of Swannee, down in Omaha; and somehow I was perfectly comforted and sure that she and that city had come through the time storm changes unharmed, though I had heard no radio broadcasts from there.

"I started investing in the stock market when I was nineteen," I said, "before I was even out of college. I struck it lucky." Luck, of course, had nothing to do with it; but I had found I could not tell people that. Because the word "stocks" was involved, it had to be luck, not hard research and harder-headed decision making, that had made money for me. "Then I used what I had to take over a company that made trailers and snowmobiles; and that did all right. I'd be there yet, but I had a heart attack."

Samuelson's eyebrows went up.

"A heart attack?" he said. "You're pretty young for something like that."

"I was damned young," I said. "I was twenty-four."

I discovered suddenly that I had been wrong about not having things I did not want to talk about. I did not want to tell him about my heart attack. He looked too much like a man who'd never had a sick day in his life.

"Anyway," I said, "my doctor told me to take it easy, and lose weight. That was two years ago. So I sold out, set up a trust to support me, and bought a place up in the woods of northern Minnesota, beyond Ely—if you know that state. I got back in shape, and I've been fine ever since; until the time storm hit three weeks ago."

"Yes," he said.

The food was ready, so I helped him carry it into the dining

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room and we all ate there; even Sunday, curled up in a corner. I had thought Samuelson might object to my bringing the leopard into his house, but he had not.

Afterwards, we sat on his screened porch at the front of the house, with the thick leaves of the sugar maple in the yard screening us from the western sun. It was after six by my watch, but now in mid-summer, there was at least another three hours of light left. Samuelson had some homemade wine which was not bad. It was not very good either, but the town was apparently a dry town; and of course he had not left it since he had first come back here and found his people gone.

"How about the girl?" he asked me, when he first poured the wine into water glasses.

"Why not?" I said. "We may all be dead—her included—tomorrow, if the wrong sort of time change catches us."

So he gave her a glass. But she only took a small slip, then put it down on the floor of the porch by her chair. After a bit, while Samuelson and I talked, she got out of the chair itself and sat down on the floor where she could put an arm around Sunday, who was lying there, dozing. Outside of raising a lazy eyebrow when he felt the weight of her arm, the leopard paid no attention. It was amazing what he would stand from her, sometimes.

"What is it?" Samuelson asked me, after we'd been talking for a while about how things used to be. "I mean—where did it come from?"

He was talking about the time storm.

"I don't know," I said. "I'll bet nobody does. But I've got a theory."

"What's that?" He was looking at me closely in the shadow of the porch. A little evening breeze stirred the lilac bushes into scraping their upper branches against the side of the house.

"I think it's just what we're calling it," I said. "A storm. Some sort of storm in space that the whole world ran into, the same way you could be out driving in your car and run into a thunderstorm. Only in this case, instead of wind and rain, thunder and lightning, we get these time changes, like ripples moving across the surface of the world with everything getting moved either forward or back in time. Wherever a change passes over them."

"How about here?" he asked. "The town's just where it was be-

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fore. Only the people . . ." He trailed off.

"How do you know?" I said. "Maybe the area right around here was moved forward just a year, say, or even a month. That wouldn't be enough to make any change in the buildings and streets you could notice; but it might have been beyond the point where everybody living here, for some reason, decided to get out."

"Why?"

"Those Buzzers, as you call them," I said. "Seeing one of them come at the town would be pretty good reason to me to get out, if I was someone living here."

He shook his head.

"Not everybody," he said. "Not without leaving some kind of message."

I gave up. If he did not want reasonable explanations, there was no point in my forcing them on him.

"Tell me," he said, after we had sat there without talking for a while, "do you think God had something to do with it?"

So that was his hang-up. That was why he stayed here, day after day, defending a town with no people in it. That was why he had carefully adapted the well in the basement to the new conditions and set up a wood stove so that he could give a regular meal at a moment's notice to a complete family, if they should return unexpectedly, showing up at the front door, tired and hungry. I wanted to tell him neither God nor human had ever changed things much for me; but now that I knew what his question meant to him, I could not do it. All at once I felt the pain in him—and I found myself suddenly angry that someone I did not even know should be able to export his troubles to me, like that. It was true I had lost nothing, not like him. Still . . .

"Who can tell?" I said, standing up. "We'd better be going."

He stood up also, quickly. Before he was on his feet, Sunday was on his, and that brought the girl scrambling upright.

"You could stay here, overnight," he said.

I shook my head.

"You don't want to drive in the dark," he went on.

"No," I said. "But I'd like to get some miles under our belt before quitting for the day. I'm anxious to get to my wife."

I led the leopard and the girl out to the panel, which I had driven over and now stood in his driveway. I opened the door on the driver's side and the other two got in, crawling back into the

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body. I waited until they were settled, then got in myself and was about to back out, when Samuelson, who had gone in the house instead of following us to the truck, came out again, almost shyly, with a pair of large paper grocery sacks. He pushed them in through the open window at my left.

"Here," he said. "There's some food you could use. I put in a bottle of the wine, too."

"Thanks." I put the two sacks on the empty front seat beside me. He looked past me, back into the body of the truck where the girl and the leopard were already curled up, ready for sleep.

"I've got everything, you know," he said. "Everything you could want. There's nothing she could use—clothes, or anything?"

"Sunday's the only thing she wants," I said. "As long as she's got him, there's nothing else she cares about."

"Well, goodby then," he said.

"So long."

I backed out into the street and drove off. In the sideview mirror I could see him walk into the street himself so that he could look after us and wave. I turned a corner two blocks down and the houses shut him from view.

He had given me a filling station map earlier, with a route marked in pencil that led me to the south edge of the city and out at last on a two-lane asphalt road rising and dipping over the land with open, farmer's fields on either side. The fields had all been planted that spring; and as I drove along I was surrounded by acres of corn and wheat and peas no one would ever harvest or use. The sky-high wall of haze that was the time change line holding its position just outside of Samuelson's town, now to the left and behind us, grew smaller as I drove the panel truck away from there.

In a car we were pretty safe, according to what I had learned so far. These time lines were like lengths of rod, rolling across the landscape; but as I say, I had yet to encounter any that seemed to travel at more than thirty miles an hour. It was not hard to get away from them as long as you could stick to a road.

I had been keeping my eyes open for something in the way of an all-terrain vehicle, but with adequate speed, something like a Land Rover that could make good time on the roads but could also cut across open country, if necessary. But so far I had not found anything.

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I became aware that the engine of the truck was roaring furiously under the hood. I was belting us along the empty asphalt road at nearly seventy miles an hour. There was no need for anything like that. It was both safer and easier on the gas consumption to travel at about forty or forty-five; and now and then gas was not easily available just when the tank ran low. It was true I had four spare five-gallon cans of gas, lashed to the luggage carrier on the panel truck's roof. But that was for real emergencies.

Besides, none of the three of us had anything that urgent to run to—or away from. I throttled down to forty miles an hour, wondering how I had let my speed creep up in the first place.

Then, of course, I realized why. I had been letting Samuelson's feelings get to me. Why should I cry for him? He was as crazy from the loss of his family as the girl was—or Sunday. But he had really wanted us to stay the night, in that large house of his from which his family had disappeared; and it would have been a kindness to him if we had stayed. Only, I could not take the chance. Sometime in the night he might change suddenly from the man who was desperate for company to a man who thought that I, or all of us, had something to do with whatever it was that had taken his people away from him.

I could not trust his momentary sanity. Samuelson had talked for a while like a sane man; but he was still someone sitting in a deserted town, shooting rockets full of high explosives at outsize toys that attacked at regular intervals. No one in that position could be completely sane. Besides, insanity was part of things, now. Sunday was the definitive example. I could have cut the leopard's throat and he would have licked my hand as I was doing it. The girl was in no better mental condition. Samuelson, like them, was caught in this cosmic joke that had overtaken the world we knew—so he was insane too, by definition. There was no other possibility.

Which of course, I thought, following the idea to its logical conclusion as I drove into the increasing twilight, meant that I had to be insane, too. The idea was almost laughable. I felt perfectly sane. But just as I had not trusted Samuelson, if I were him, or anyone else looking at me from the outside as I drove across the country with a leopard and a speechless girl for companions, I would not trust myself. I would have been afraid that there could be a madness in me too, that would overtake me some time, sud-

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denly and without warning. Of course, that was all nonsense. I put the ridiculous thought out of my head.

When the red flush of the sunset above the horizon to our right began to grow narrow and dark; and stars were clearly visible in the clear sky to the east, I pulled the panel truck off the road into a comfortable spot under some cottonwood trees growing down in a little dip between two hills and set up camp. It was so warm that I had the tent flaps tied all the way back. I lay there looking out at the stars, seeming to move deeper and deeper in the night sky, becoming more and more important and making the Earth I could feel under me more like a chip of matter lost in the universe.

But I could not sleep. That had happened to me a lot, lately. I wanted to get up and go sit outside the tent by myself, with my back to the trunk of one of the cottonwoods. But if I did, Sunday would get up and come out with me; and then the girl would get up and follow Sunday. It was a chain reaction. A tag-end of a line from my previous two years of steady reading during my hermit-like existence above Ely came back to me. *Privatum commodum publico cedit*—"Private advantage yields to public." I decided to lie there and tough it out.

What I had to tough out was the replaying in my head of all the things that had happened. I had almost forgotten, until now, my last summer in high school when I started teaching myself to read Latin because I had just learned how powerfully it underlays all our English language. Underlays and outdoes. *"How long, O Catiline, will you abuse our patience?"* Good, but not in the same ballgame with the thunder of old Cicero's original: *"Quo usque, Catilina, abutere patienta nostra?"*

After the sweep of the first time change, which I thought was my second heart attack come to take me for good this time—after I had not understood then that what I had done to the squirrel was squirrel, frozen in shock. The little grey body had been relaxed in my hands when I picked it up, the small forepaws had clung to my fingers. It had followed me after that for at least the first three days, when I finally decided to walk south from my cabin and reach a city called Ely, that turned out to be no longer there. I had not understood then that what I had done to the squirrel was what later I was to do to Sunday—be with it when it came out of shock, making it totally dependent on me . . . Then, a week or so

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later, there had been the log cabin and the man in leggings, the transplanted Viking or whoever, who I thought was just anyone cutting firewood with his shirt off until he saw me, hooked the axe over his shoulder as if holstering it, and started walking toward me . . .

I was into it again. I was really starting to replay the whole sequence, whether I wanted to or not; and I could not endure that, lying trapped in this tent with two other bodies. I had to get out. I got to my feet as quietly as I could. Sunday lifted his head, but I hissed at him between my teeth so angrily that he lay down again. The girl only stirred in her sleep and made a little noise in her throat, one hand flung out to touch the fur of Sunday's back.

So I made it outside without them after all, into the open air where I could breathe; and I sat down with my back against the rugged, soft bark of one of the big cottonwoods. Overhead the sky was perfectly clear and the stars were everywhere. The air was still and warm, very transparent and clean. I leaned the back of my head against the tree trunk and let my mental machinery go. It was simply something I was stuck with—had always been stuck with, all my lifetime.

Well, perhaps not all. Before the age of seven or eight, things had been different. But by the time I was that old, I had begun to recognize that I was on my own—and needed no one else.

My father had been a cipher as far back as I could remember. If someone were to tell me that he had never actually realized he had two children I would be inclined to believe it. Certainly I had seen him forget us even when we were before his eyes, in the same room with him. He had been the Director of the Walter H. Mannheim private library in St. Paul, and he was a harmless man—a bookworm. But he was no use to either myself or my younger sister as a parent.

My mother was something else. To begin with, she was beautiful. Yes I know, every child thinks that about its mother. But I had independent testimony from a number of other people; particularly a long line of men, other than my father, who not only thought so, too, but told my mother so, when I was there to overhear them.

However, most of that came later. Before my sister was born my mother was my whole family, in herself. We used to play games together, she and I. Also, she sang and talked to me, and

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told me stories endlessly. But then, after my sister was born, things began to change. Not at once, of course. It was not until Beth was old enough to run around that the alteration in my mother became clearly visible. I now think that she had counted on Beth's birth to do something for her marriage, and it had not done so.

At any rate, from that time on, she began to forget us. Not that I blamed her for it. She had forgotten our father long since—in fact, there was nothing there to forget. But now she began to forget us as well. Not all of the time, to start with; but we came to know when she was about to start forgetting because she would show up one day with some new, tall man we had never seen, smelling of cigars and alcohol.

When this first started happening, it was the beginning of a bad time for me. I was too young then to accept what was happening and I wanted to fight whatever was taking her away from me, but there was nothing there with which I could come to grips. It was only as if a glass window had suddenly been rolled up between her and me; and no matter how I shouted or pounded on its transparent surface, she did not hear. Still, I kept on trying to fight it for several years, during which she began to stay away for longer and longer periods—all with my father's silent consent, or at least with no objections from him.

It was at the close of those years that my fight finally came to an end. I did not give up, because I could not; but the time came when my mother disappeared completely. She went away on one last trip and never came back. So at last I was able to stop struggling, and as a result I came to the first great discovery of my life, which was that nobody ever really loved anyone. There was a built-in instinct when you were young that made you think you needed a mother and another built-in instinct in that mother to pay attention to you. But as you got older you discovered your parents were only other humanly selfish people, in competition with you for life's pleasures; and your parents came to realize that this child of theirs that was you was not so unique and wonderful after all, but only a small savage with whom they were burdened. When I understood this at last, I began to see how knowing it gave me a great advantage over everyone else, because I realized then that life was not love, as my mother had told me it was when I was very young, but competition—

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fighting—and, knowing this, I was now set free to give all my attention to what really mattered. So, from that moment on I became a fighter without match, a fighter nothing could stop.

It was not quite that sudden and complete a change, of course. I still had, and probably always would have, absent-minded moments when I would still react to other people out of my early training, as if it mattered to me whether they lived or died. Indeed, after my mother disappeared for good, there was a period of several years in which Beth clung to me—quite naturally, of course, because I was all she had—and I responded unthinkingly with the false affection reflex. But in time she too grew up and went looking somewhere else for attention, and I became completely free.

It was a freedom so great that I saw most people could not even conceive of it. When I was still less than half-grown, adults would remark on how strong-minded I was. They talked of how I would make my mark in the world. I used to want to laugh, hearing them say that, because anything else was unthinkable. I not only had every intention of leaving my mark on the world, I intended to put my brand on it and turn it into my own personal property; and I had no doubt I could do it. Free as I was of the love delusion that blinkered all the rest of them, there was nothing to stop me; and I had already found out that I would go on trying for what I wanted as long as it was there for me to get.

I had found that out when I had fought my mother's withdrawal from us. I had not been able to stop struggling against that until it had finally sunk in on me that she was gone for good. Up until that time I had not been able to accept the fact she might leave us. My mind simply refused to give up on her. It would keep going over and over the available data or evidence, with near-idiot, unending patience, searching for some crack in the problem, like a rat chewing at a steel plate across the bottom of a granary door. A steel plate could wear down a rat's teeth; but he would only rest a while to let them grow again, and then go back once more to chewing, until one day he would wear his way through to where the grain was. So it was with me. Pure reflex kept the rat chewing like that; and, as far as I was concerned, it was a pure reflex that kept my mind coming back and back to a problem until it found a solution.

There was only one way to turn it off, one I had never found

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out how to control. That was if somehow the knowledge managed to filter through to me that the answer I sought would have no usefulness after I found it. When that happened—as when I finally realized my mother was gone for good—there would be an almost audible *click* in my mind and the whole process would blank out. It was as if the reflex suddenly went dead. But that did not happen often; and it was certainly not happening now.

The problem my mind would not give up on at the moment was the question of what had happened to the world. My head kept replaying all its available evidence, from the moment of my collapse in the cabin near Duluth to the present, trying for one solid, explainable picture that would pull everything together.

Sitting now under the tree, in the shade of a new-risen quarter moon and staring up at the star-bright sky of summer, I went clear back to reliving my college days, to the paper I had written on the methods of charting stocks, followed by the theoretical investments, then the actual investments, then the penthouse suite in the Bellecourt Towers, hotel service twenty-four hours a day, and the reputation for being some sort of young financial wizard. Then my cashing out and buying into Snowman, Inc., my three years as president of that company while snowmobile and motor home sales climbed up off the wall chart—and my marriage to Swannee.

I had never blamed Swannee a bit for what had happened. It must have been as irritating to her as it would have been to me to have someone hanging onto her the way I ended up doing. But she had wakened the old childish habits in me. I missed her strongly after she left me; and to get over that, I dived back into work.

The way that I decided to get married in the first place was that I had gotten tired of living in the penthouse apartment. I wanted a real house and found one, an architecturally modern, rambling building with five bedrooms, on about twenty acres of land with its own small lake. And of course, once I had decided to have a house, I realized that what I really needed was a wife to go along with it. So I looked around a bit and married Swannee. She was not as beautiful as my mother but she was close to it. Tall, with a superb body and a sort of golden-custard colored hair, very fine, that she wore long and which floated around her shoulders like a cloud.

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By education she had been headed for being a lawyer but her instincts for work were not all that strong. In spite of the fact that she had done well academically in law school, she had never taken her bar exams and was in fact working as a sort of ornamental legal assistant to a firm of corporation attorneys down in St. Paul. I think she was glad to give up the pretense of going to the office every day and simply take over as my wife. She was, in fact, ideal from my standpoint. I had no illusions about her. I had buried those with the memories of my mother years before. So I had not asked her to be any more than she was; ornamental, good in bed, and able to do the relatively easy job of managing this home of mine. I think in fact we had an ideal marriage—until I spoiled it.

As I said, occasionally I would become absentminded and respond as if other people really mattered to me. Apparently I made the mistake of doing this with Swannee; because little by little she drifted off from me, began disappearing on short trips almost as my mother had done, and then one day she told me she wanted a divorce and left.

I was disappointed, but of course not much more than that; and I decided that trying to have an ordinary, live-in wife had been a mistake in the first place. I now had all my time to devote to work, and for the next year I did just that. Right up to the moment of my first heart attack.

—At twenty-four. God damn it, no one should have to have a heart attack after only twenty-four years in this world. But again there was my rat-reflex mind chewing away at that problem, too, until it broke through to a way out. I cashed in and set up a living trust to support me in style forever, if necessary; and I went up to the cabin to live and make myself healthy again.

Two years of that—and then the blackout, the squirrel, the trek south, the man with the axe . . . and Sunday.

I had almost shot Sunday in the first second I saw him, before I realized that he was in the same sort of trance the squirrel had been in. We ran into each other about twenty miles or so south of the Twin Cities, in an area where they had started to put together a really good modern zoo—one in which the animals wandered about almost without restriction, and the people visiting were moved through wire tunnels and cages to see the creatures in something like their natural wild, free state.

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But there was no zoo left when I got there; only open, half-timbered country. A time change line had moved through, taking out about three miles of highway. The ground was rough, but dry and open. I coaxed the panel truck across it in low gear, picking as level a route as I could and doing all right until I got one rear wheel down into a hole and had to jack it up to get traction again.

I needed something firm to rest the jack base on. I walked into a little patch of woods nearby looking for a piece of fallen tree limb the right size, and literally stumbled over a leopard.

He was crouched low on the ground, head twisted a little sideways and looking up as if cringing from something large that was about to attack him. Like the squirrel, he was unmoving in that position when I walked into him—the time storm that had taken out the road and caught him as well must have passed only minutes previously. When I stubbed my toe on his soft flank, he came out of his trance and looked at me. I jumped back and jerked up the rifle I had had the sense to carry with me.

But he stepped forward and rubbed along the side of my upper leg, purring, so much like an overgrown household pussycat that I could not have brought myself to shoot him, even if I had had the sense to do so. He was a large young male, weighing a hundred and forty pounds when I later managed to coax him on to a bathroom scale in an abandoned hardware store. He rubbed by me, turned and came back to slide up along my other side, licking at my hands where they held the rifle. And from then on, like it or not, I had Sunday.

I had puzzled about him and the squirrel a number of times since. The closest I had come to satisfying my search for what had made them react as they had was that being caught by a time change jarred anything living right back to its infancy. After I first came to in the cabin—well, I generally avoided thinking about that. For one thing I had a job to clean myself up. But I do remember that first, terrible feeling of helplessness and abandonment—like a very young child lost in a woods from which he knows he can never find his way out. If someone had turned up then to hold my hand, I might have reacted just like the squirrel or the leopard.

Then there had been our meeting—Sunday's and mine—with the girl. That had been a different kettle of fish. For one thing, evidently she had passed the point of initial recovery from being

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caught in a time change; but equally evidently, the experience—or something just before the experience—had hit her a great deal more severely than my experience with the time change had done.

But about this time, the stars started to swim slowly in a circular dance and I fell asleep.

I woke with the sun in my eyes, feeling hot and itchy all over. It was a bright cloudless day, at least a couple of hours old, since dawn; evidently the tree had shaded me from the sun's waking me earlier.

Sunday lay curled within the open entrance to the tent; but he was all alone. The girl was gone.

My first reaction, out of that old, false early training of mine, was to worry. Then common sense returned. It would only be a relief, as far as I was concerned, to have her gone; with her fits of withdrawal and her pestering Sunday until he, in turn, became a bother.

Damn it, I thought, *let her go.*

But then it occurred to me that something might have happened to her. It was open country all around us here, except for a screen of young popple beyond which there was a small creek. I went down through the popple and looked across the creek, up over a swelling expanse of meadow lifting to a near horizon maybe three hundred yards off. There was nothing to be seen. I went down to look at the creek itself, the edges of which were muddy and marshy, and found her footprints in soft earth going toward the water. A little further, one of her shoes was stuck in the mud and abandoned.

The creek was shallow—no more than knee deep for someone her size. I waded across, picked up her tracks in the mud on the far side, and saw them joined by two other sets of footprints. Bare feet, larger than hers. I began to feel cold and hot inside at the same time.

I went back to the tent, strapped on the belt with the holstered revolver and took the carbine. The carbine held thirteen shells and it was semi-automatic. My first thought was of following the tracks up the hill, and then I realized that this would be more likely to alert whoever the other two people had been than if I drove. If they saw me coming in the panel, they might figure I'd given up on the girl and left her. If they saw me coming on foot,

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particularly with Sunday, they wouldn't have much choice but to think I was chasing her down.

I packed the gear. It would be hard to replace, maybe; and there was no guarantee we'd be coming back this way again. Then I got into the panel, letting Sunday up on the seat beside me for once, but making him lie down out of sight from outside. I pulled out on the highway and headed up the road parallel to the way I had last seen the footprints going.

We did not have far to go. Just up and over the rise that belonged to the meadow across the creek, I saw a trailer camp with some sort of large building up in front of all the trailers. No one had cut the grass in the camp for a long time, but there were figures moving about the trailers. I drove up to the building in front. There were a couple of dusty gas pumps there; and a cheerfully-grinning, skinny, little old man in coveralls too big for him came out of the building as I stopped.

"Hi," he said, coming up within about four feet of Sunday's side of the car and squinting across through the open window at me. "Want some gas?"

"No thanks," I said. "I'm looking for a girl. A girl about fourteen-fifteen years old with dark hair and doesn't talk. Have you seen—"

"Nope!" he chirped. "Want some gas?"

Gas was something you had to scrounge for these days. I was suddenly very interested in him.

"Yes," I said. "I think I'll have some gas. And . . ."

I let my voice trail off into silence. He came closer, cocking his left ear at me.

"What'd y'say?" He stuck his head in the window and came face to face with Sunday, only inches between them. He stopped, perfectly still.

"That's right," I said. "Don't move or make a sound, now. And don't try to run. The leopard can catch you before you can take three steps." He didn't know that Sunday would never have understood in a million years any command I might have given to chase someone.

I jerked my thumb at the back of the panel. Sunday understood that. He turned and leaped into the back, out of the right hand seat in one flowing movement. The old man's eyes followed him. I slid over into the right hand seat.

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"Now," I said, "turn around. Give me room to open the door."

He did. I opened the door on that side of the panel a crack. The baggy coverall on his back was only inches away. Vertically in the center of the back, about belt level, was a tear or cut about eight inches long. I reached in through it, and closed my hand on pretty much what I expected. A handgun—a five-chamber .22 revolver—stuck in a belt around his waist under the coveralls.

"All right," I said, picking up the carbine and getting out of the panel behind him. "Walk straight ahead of me. Act ordinary and don't try to run. The leopard will be with me; and if I don't get you, he will. Now, where's the girl? Keep your voice down when you answer."

"Bub-bu-bu——" the old man stammered. Sounds, nothing understandable. Plainly, as his repeated offer of gas had shown, whoever lived in this camp had chosen one of their less bright citizen to stand out front and make the place look harmless.

"Come on, Sunday," I said.

The leopard came. We followed the old man across the drive past the pumps. The large building looked not only closed, but abandoned. Darkness was behind its windows, and spider webs hung over the cracked white paint of its doorframe. I poked the old man with the carbine muzzle, directing him around the right end of the building and back into the camp. I was expecting to be jumped or fired at, at any second. But nothing happened. When I got around the end of the building I saw why. They were all at the party.

God knows, they might have been normal people once. But what I saw now were somewhere between starving savages and starving animals. They were mostly late adolescents, rib-skinny every one of them, male and female alike barefoot below the ragged cuff-edges of the jeans they wore and naked above the waistband. Every one of them, as well, was striped and marked with black paint on face and body. They were gathered, maybe thirty or forty of them, in an open space before the rows of trailers began. It might have been a stretch of show lawn, or a volleyball court, once. At the end of it, tied to a sort of X of planks set upright and surrounded by burnable trash, paper, and bits of wood, was the girl.

Whether she had come there willingly, I do not know. It is not beyond the bounds of possibility that she had finally despaired of

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ever having Sunday love her, and when she met those two other pairs of feet by the creek she had gone off of her own free will with them. But she was terrified now. Her eyes were enormous, and her mouth was stretched wide in a scream that she could not bring forth.

I poked the old man with the gun muzzle and walked in among them. I saw no weapons, but it stood to reason they must have something more than the revolver that had been hidden on the old man. The back of my neck prickled; but on the spur of the moment the best thing I could think of was to put a bold front on it, and maybe we could just all walk out of here—the girl, Sunday, and I—with no trouble.

They said not a word; they did not move as I walked through them. And then, when I was less than a dozen feet from the girl, she finally got that scream out of her. *"Look out!"*

For a part of a second I was so stunned to hear her utter something understandable that I only stared. Then it registered on me that she was looking over my shoulder at something behind me. I spun around, dropping on one knee instinctively and bringing up the carbine to my shoulder.

There were two of them, lying on the roof of the house with either rifles or shotguns—I had no time to decide which. They were just like the others, except for their firearms. The girl's shriek must have startled them as much as it had me, because they were simply lying there, staring down at me with their weapons forgotten.

But it was not them I had to worry about, anyway, because—I have no idea from where—the crowd I had just passed had since produced bows and arrows; perhaps a bow for every five or six of them, so that half a dozen of them were already fitting arrows to their strings as I turned. I started firing.

I shot the two on the roof first, without thinking—which was pure foolishness, the reflex of a man brought up to think of firearms as deadly, but of arrows as playthings—because the two on the roof did not even have their guns aimed and by the time I'd fired at them a couple of arrows had already whistled by me. They were target arrows, lacking barbed hunting heads, but nonetheless deadly for that. The rest of the ones being aimed would certainly not all have missed me—if it had not been for Sunday.

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There was nothing of the Lassie-dog-to-the-rescue about Sunday. The situation was entirely beyond his understanding; and if the two on the roof or the bow-wielders had shot me quickly and quietly enough, probably he would merely have sniffed sadly at me as I lay on the ground and wondered why I had stopped moving. But the girl had screamed—and I must suddenly have reeked of the body chemicals released by fear and fury—so Sunday operated by instinct.

If I was frightened, he was frightened, too. And in wild animals, as in man himself once he is broken down to it, fear and fury are the same thing. Sunday attacked the only fear-making cause in view—the group of archers and their friends before us; and they found themselves suddenly facing a wild, snarling, pinwheel-of-knives that was a hundred and forty pound member of the cat family gone berserk.

They ran from him. Of course they ran. All but three or four that were too badly clawed or bitten to get away. I had plenty of time and freedom to get the girl untied from the planks and start to lead her out of the clearing. By that time Sunday was off in one corner of the open space, daintily toying with one hooked claw at a bleeding, moaning figure that was trying to crawl away from him. It was a little sickening, but so was what they had planned for the girl. I called the leopard. He came—if reluctantly—and followed us back to the truck. We got out of there.

Half a mile down the highway I had to pull over to the shoulder and stop the car, again. Sunday was still prickly from the adrenalin of the battle. He wanted to lie in the back of the panel all alone and lick his fur. The girl, rebuffed by him, was suddenly sick. I helped her out of the car and held her head until it was over. Then I got her back into the front seat of the car, curled up there with a blanket over her.

"They were going to *eat* me," she whispered, when I covered her up.

It was the second time she had spoken, and all in one day. I looked at her, but her eyes were squeezed shut. I could not tell if she had been talking to me, or only to herself. I got the panel moving again and let her sleep. That evening when we camped, I tried talking to her myself. But she had gone back to being dumb. She would neither speak nor look at me. Foolishly, I even found

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myself feeling disappointed—even a little hurt at that. But of course that was just the wrong-headed early training at work in me again. I had been feeling good over the fact that she was coming out of her mental prison—as if that really mattered, one way or another.

The next day we headed south by west again. It was a bright, hot day, and I was feeling good. We had gotten off the asphalt on to a stretch of superhighway, and there was no one to be seen—not even anything on the road as inconsequential as an abandoned car. We were making good time, and Samuelson had helped me to fix myself on the map. We were close enough to the location of Omaha that, barring unforeseen delays along the road, we ought to reach it by sunset. When noon came, I picked a ramp and pulled off the freeway—just to be on the safe side in case someone unfriendly should be cruising it about the time we were having lunch—and found a patch of shade under some large, scraggly-limbed trees I could not identify.

We had hardly glimpsed the mistwall of a time change all morning—and the few we had seen had been far off, so far off that in the bright daylight it was impossible to tell whether they were standing still or moving. But obviously one had passed by where we were sometime since the storms started. About four hundred yards from the exit ramp of the highway the cross road ended abruptly in a clump of tall mop-headed palms, the kind you find lining the boulevards in Los Angeles.

The palms and the big scraggly-limbed trees signalled that we were into a different time-changed territory than we had been earlier. Now that I stopped to notice it, for some time there had been a different kind of dampness to the air than that which comes from midwestern, mid-summer humidity. The softness of the atmosphere was more like that of a seacoast; and the few white clouds that moved overhead seemed to hang low and opulent in the sky, the way they do in Florida, instead of being high and distant like piled up castles, as they are in temperate zone mid-continental skies during the warm months.

It was a hint, I thought, to be on our guard against strange company. As far as I had been able to determine, it was only everything below the animal level that got changed by the mistwalls when they passed. I had begun to add up some evidence in what I saw to reach the conclusion that much of what I came

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across was several hundred, if not several thousand, years forward from my own original time. There was some evidence of extensive storm damage and geological change, followed by considered reforestation in a majority of the landscapes I moved through. There must have been massive loss of life in most areas at the same time or another, which accounted for the scarcity of most warm-blooded creatures, except for birds. Certainly topography and vegetation changed when a time line passed, and I had noticed fish in lakes that had not been lakes before time change. But just where on the scale of life the dividing line was drawn, I had no idea. It would pay to be watchful. If, for example, snakes were below the dividing line then we might suddenly encounter poisonous varieties in latitudes or areas where such varieties had never existed before.

I spent part of the lunch hour trying to get the girl to talk, but she was still back at being voiceless again. I kept chattering to her, though, partly out of stubbornness and partly out of the idea that if she had loosened up once, she could again; and the more I tried to wear down the barrier between us, possibly, the sooner she would.

When we were done with lunch, we buried the tin cans and the paper. The girl and I ate a lot of canned stuff, which made meals easy; and I had fallen into the habit of feeding Sunday on canned dog food or any other meat that could be found. He also hunted occasionally as we went along. But he would never go very far from me to do it, and this restricted what he could catch. But we buried our trash just in case some one or something might find the remains and take a notion to trail us. We got back in the panel truck and headed once more down the superhighway.

But it was exactly as if stopping to eat lunch had changed our luck. Within five miles the superhighway disappeared—cut off by some past time storm line. It ended in a neat lip of concrete hanging thirty feet in the air with nothing in the shape of a road below or beyond it but sandy hills, covered with cactus and scraggly trees. I had to backtrack two miles to find an exit ramp that led down on to a road that appeared to keep going off at an angle as far as I could see. It was asphalt, like most of the roads we had been travelling earlier, but it was not in as good shape as the ones that had led us through Samuelson's small town and past the trailer camp. It was narrower, high-crowned, and weedy

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along the edges. I hesitated because, although the road angled exactly in the direction I wanted to go, there was something about it that filled me with uneasiness. I simply did not like the look of it. Here and there sand had blown across it, a smudge of gold on black—but not to any depth that would slow down the panel truck. Still, I slowed on my own and cruised at no more than thirty miles an hour, keeping my eyes open.

The road seemed to run on without end, which did nothing to allay that uneasiness of mine. There was something about it that was unfamiliar—not of any recognizable time—in spite of the fact that it looked like a backwoods road anywhere. The sandy hillscapes following us on either side were alien, too, as if they had been transported from a desert somewhere and set down here. Also, it was getting hotter and the humidity was worse.

I stopped the panel, finally, to do a more precise job of estimating our position on the map than I could do while driving. According to the compass I had mounted on the instrument panel of our vehicle, the asphalt road had been running almost exactly due west; and the outskirts of Omaha should be less than twenty miles southwest of us.

As long as we had been on the superhighway, I had not worried, because a road like that, obviously belonging to our original twentieth century time, had to be headed toward the nearest large city—which had to be Omaha. Just as on the asphalt road at first I had not worried either, because it headed so nearly in the direction I wanted to go.

But it was stretching out now to the point where I began to worry that it would carry me to the north and past the city, without letting me catch sight of it. Certainly, by this time we had gone far enough to intersect some other roads heading south and into the metropolitan area. But we had crossed no other road. For that matter, we had come across nothing else that indicated a city nearby, no railroad tracks, no isolated houses, no fences, no suburban developments in the bulldozer stage of construction . . . I was uneasy.

Laying out the road map on the hood of the car, I traced our route to the superhighway, traced the superhighway to what I believed to be the exit by which we had come down off it and along the road that exit tied into—headed west. The road was there, but according to the map less than a dozen miles farther on it ran

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through a small town called Leeder, and we had come twenty miles without seeing as much as a road sign.

I went through the whole thing twice more, checked the compass and traced out our route, and checked the odometer on the panel to see how far we'd come since leaving the superhighway —and the results came out the same. We had to be bypassing Omaha to the north.

I got back in the truck and started travelling again, driving slowly. I told myself I'd give myself another five miles without a crossroad before turning back. I drove them, and then another five. But I saw no crossroad. Nothing. Only the narrow, neglected-looking strip of asphalt which looked as if it might continue unchanged all the way to the Pacific Ocean.

I stopped the panel again, got out, and walked off the road to check the surface of the ground to the south. I walked back and forth and stamped a few times. The surface was sandy but hard—easily solid enough to bear the weight of the panel truck—and the vegetation was scattered enough so that there would be no trouble driving through it. Up until now I had been very careful not to get off the roads, for fear of a breakdown of the truck which would strand us a distance from any hope of easily finding another vehicle. On foot we would be at the mercy of the first moving time storm wall that came toward us.

But we were so close now—we were just a few miles away from getting back to normal life. I could see Swannee in my mind's eye so clearly that she was almost like a mirage superimposed on the semidesert landscape around us. She had to be there, waiting for me. Something inside me was still positive, beyond all argument, that Omaha had survived and that along with it Swannee had survived in the sanity of a portion of the world as it had been before the time storm. In fact my mind had toyed a number of times with the idea that since Omaha, like Hawaii, had survived, it might mean there might be many other enclaves of safety; and the fact that there were such enclaves would mean there was a way of licking the time storm, by applying to all other places the special conditions or whatever unusual elements had kept these enclaves protected.

In those enclaves she and I could still lead the reasonable and normal life we could have had before the time storm hit, and somehow I knew that the experience of the time storm would

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have straightened her out on what had gone wrong between us before. Time would have brought her to the realization that it was simply an old reflex on my part that had made me act like someone literally in love with her. Also she would know how tough life could be outside the enclaves like the one she now lived in—or even there for that matter. She would have a new appreciation of what I could do for her, in the way of taking care of her. In fact, I was willing to bet that by this time she would be ready to indulge these little emotional lapses of mine. All I had to do was find her and things would go well.

—But that was something to think about when there was time to think about it. The big question now was: should I take the panel across country, south, away from the road, to find a highway or street that would bring me to the city?

There was really no argument about it. I got Sunday and the girl back into the panel—they had followed me outside and wandered after me as I stamped on the ground to make sure it would not bog down the panel—then I got back in the truck, turned off the asphalt and headed due south by the compass.

It was not bad driving at all. I had to slow down to about five to ten miles an hour; and I kept the panel in second gear, occasionally having to shift down to low on the hills, but generally finding it easy going. It was all up and down, a roller-coaster type of going for about nine-tenths of a mile; and then suddenly we came up over a rise and looked down on a lakeshore.

It was just a strip of whitish-brown, sandy beach. But the shallow, rather stagnant-looking water beyond the beach stretched out as far as I could see and out of sight right and left as well. Evidently the time storm had moved this whole area in, to the northwest of the metropolitan area, pretty well blocking off access from that direction. The problem for me now was: which way would be the shortest way round the lake? Right or left?

It was a toss-up. I squinted in both directions but for some reason, just while I had been standing there, a haze of some sort seemed to have moved in, so that I could not see far out on the water in any direction. Finally I chose to go to the right, because I thought I saw a little darkness through the haze upon the sunglare off the water and sand in that direction. I turned the nose of the truck and we got going.

The beach was almost as good as a paved road to drive on. It

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was flat and firm. Apparently, the water adjoining it began to shelve more sharply as we went along, for it lost its stagnant, shallow appearance and began to develop quite a respectable surf. There was an onshore wind blowing, but it helped the heat and the humidity only a little. We kept driving.

As I watched the miles add up on the truck's odometer, I began gradually to regret not trying in the other direction. Clearly, I had picked the long way around this body of water, because looking ahead I could still see no end to it. When the small, clicking figures of the odometer rolled up past the twelve mile mark, I braked the truck to a halt, turned around, and headed back.

As I said, the beach was good driving. I pushed our speed up to about forty, and it was not long before we were back at the point where we had first come upon the lake. I kept pounding along, and shortly I made out something up ahead. The dazzle of sunlight from the water seemed to have gotten in my eyes so that I could not make out exactly what it was—something like a handkerchief-sized island with a tree, or a large raft with a diving tower, out in the water just a little ways from the beach. But there were the black silhouettes of two-legged figures on the sand there. I could stop to get some directions and we could still be pulling into Swannee's driveway in time for dinner.

The dazzle-effect on my eyes got worse as the panel got close to the figures, and the glitter of sunlight through the windshield was not helping. I blinked, and blinked again. I should have thought to pick up some dark glasses and keep them in the glove compartment of the panel for situations like this—but I just had not expected to run into water-glare like this. I must have been no more than thirty or forty feet from the figures by the time I finally braked the panel to a stop and jumped out of it on to the sand, blinking to get the windshield-glitter out of the way between us—and I still could not see them clearly. There were at least half a dozen of them on the beach, and I saw more out on the raft or whatever it was.

I started toward them.

"Hey!" I said. "I'm lost. Can you put me on the road to Omaha? I want to get to Byerly Park, there."

The figures did not answer. I was within a few steps of them now. I stopped, closed my eyes, and shook my head violently. Then I opened my eyes again.

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For the first time I saw them clearly. They had two legs apiece, all right; but that was the only thing people-like about them. As far as I could see, they wore no clothes; and I could have sworn they were covered with greenish-gold scales. Heavy, lizard-like features with unblinking dark eyes stared directly into my face.

I stared back at them. Then I turned and looked out at the raft and beyond. All around were the beach and the water—nothing more. And finally, finally, the truth came crashing in on me.

There was too much water. There was no way Omaha could still exist out there beyond the waves. I had been wrong all the time. I had been fooling myself, hugging to my mind an impossible hope as if it was the fixed center of the universe.

Omaha was gone. Gone completely. Swannee was gone. Like so many other things, she had been taken away forever. I had lost her for good, just as I had lost my mother . . .

The sun, which had been high overhead, seemed to swing halfway around the sky before my eyes and turn blood red. The water seemed to go black as ink and swirl up all around me. My mind felt as if it was cracking wide open; and everything started to spin about me like liquid going down a drain, sucking water and beach and all, including me, away down into some place that was ugly and frightening.

It was the end of the world. I had been intending to survive anything for Swannee's sake, but all the time she had already been gone. She and Omaha had probably been lost in the first moment after the time storm hit. From then on, there had only been the illusion of her in my sick mind. I had been as insane as Samuelson, after all. The crazy cat, the idiot girl, and I—we had been three loonies together. I had flattered myself that the mist-walls were all outside me; but now I could feel them breaching the walls of my skull, moving inside, wiping clean and destroying everything over which they passed. I had a faint and distant impression of hearing myself howling like a chained dog, and of strong hands holding me. But this, too, swiftly faded away into nothingness . . .

It was a nothingness I welcomed. It should have been death. I wanted death. But that part of me that always refused to quit unsatisfied would not let me go. Still trapped in life, adrift in my mind, I was left at last in the empty room of my thoughts, face to face with the fact that it had not been a final move into peace for

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me, after all, admitting that Swannee was gone forever. It had only been one more step on a long journey of the self to some huge goal I could only feel and fear but not yet see, a goal that continued to draw me inexorably to it.

In peace or pain, I now saw the pilgrimage still before me as something to which I was committed, on the face of this new, strange earth. I was locked into it, by myself and the time storm, as if by some ancient curse—or inescapable, iron blessing.

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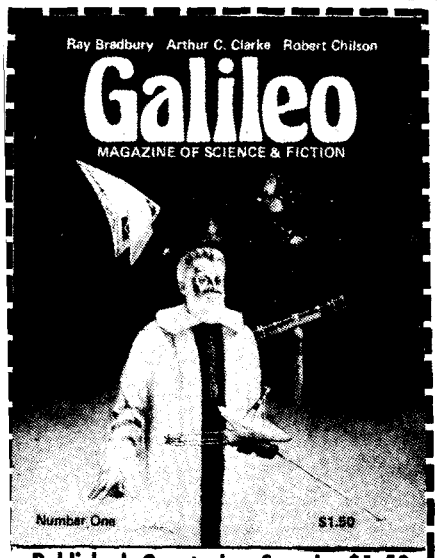

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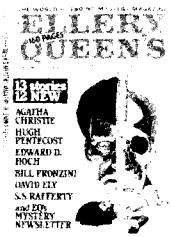

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